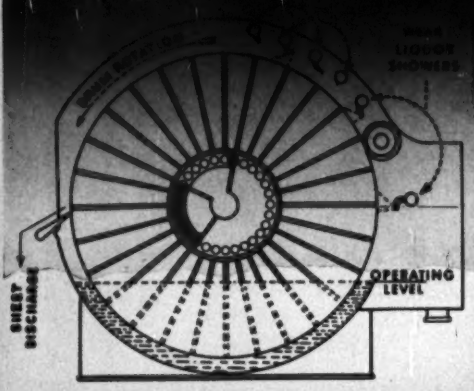
Paper
TRADE JOURNAL

Feb. 9, 1951

WHAT DOES THE PUBLIC THINK OF YOUR COMPANY?

HOW CAN DIGESTER CORROSION BE COMBATED?

Washes Sulfite Pulp – 2 stages on 1 drum



Swenson-Nyman Pulp Washers of the type used for sulfite pulp

The diagram at left illustrates a sectional view of a Swenson-Nyman Pulp Washer, and the valve arrangement for maintaining separation of strong and weak sulfite liquors. Pulp emerges well washed at high consistency; with less dilution, thus reducing evaporation costs.

Swenson Spray Dryer converts sulfite liquor to dry powder in 30 seconds. Information on request.

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- Evaporators
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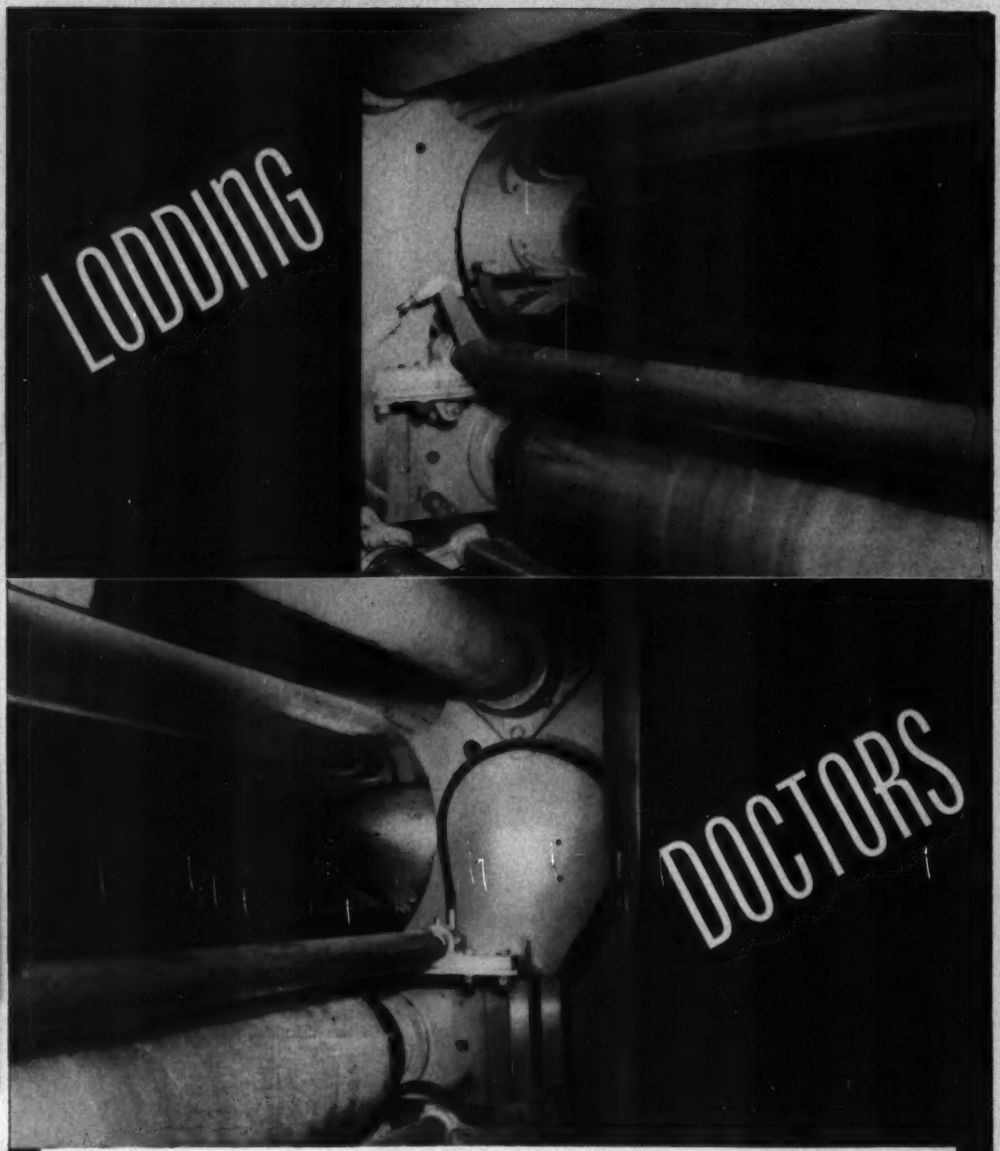
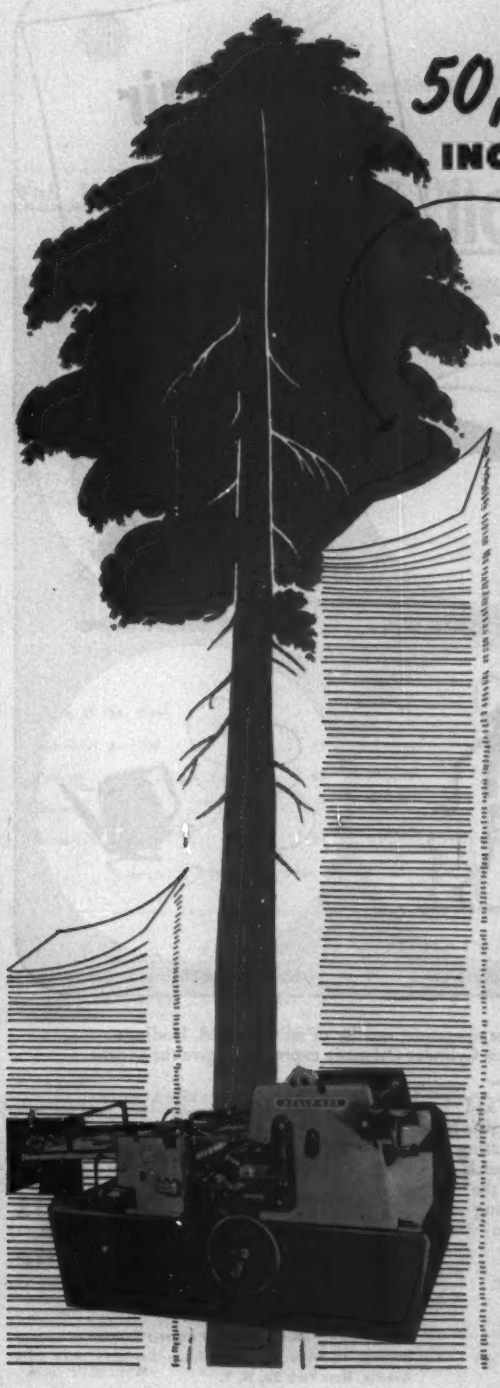


Reflecting the quality of
Lodding Oscillating Supercalender Doctors

•

Lodding Engineering Corporation, Worcester, Massachusetts
Represented by W. E. Greene Corporation,
Woolworth Building, New York.

TIMELY HELP FROM TITANOX RESEARCH



HOW TO GET

50,000,000 more

INCHES OF PRINTING AREA PER TON OF PAPER

Light-weight, 20-pound coated paper, pigmented with TITANOX, can provide 50,000,000 *more* square inches of printing area per ton than ordinary 40-pound stock with no increase in show-through, no loss in brightness or opacity. Such processing provides a practical way to utilize paper making materials more effectively.

In the interest of better paper making, TITANOX research has developed titanium dioxide pigments specially suited for whitening, brightening and opacifying paper and has established definite recommendations for their use. For example, TITANOX-A-WD, the water-dispersible titanium dioxide and the rutile-calcium pigment TITANOX-RCHT are suggested for use in coatings. TITANOX-A-WD is also specially recommended for addition to the beater. Each of these pigments has the fine and optimum particle size which imparts maximum whiteness, brightness and opacity . . . ensures easy mixing and complete dispersion.

Our Technical Service Department is always ready to help you make the best use of TITANOX pigments. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; Boston 6; Chicago 3; Cleveland 15; Los Angeles 22; Philadelphia 3; Pittsburgh 12; Portland 9, Ore.; San Francisco 7. In Canada: Canadian Titanium Pigments, Ltd., Montreal 2; Toronto 1.

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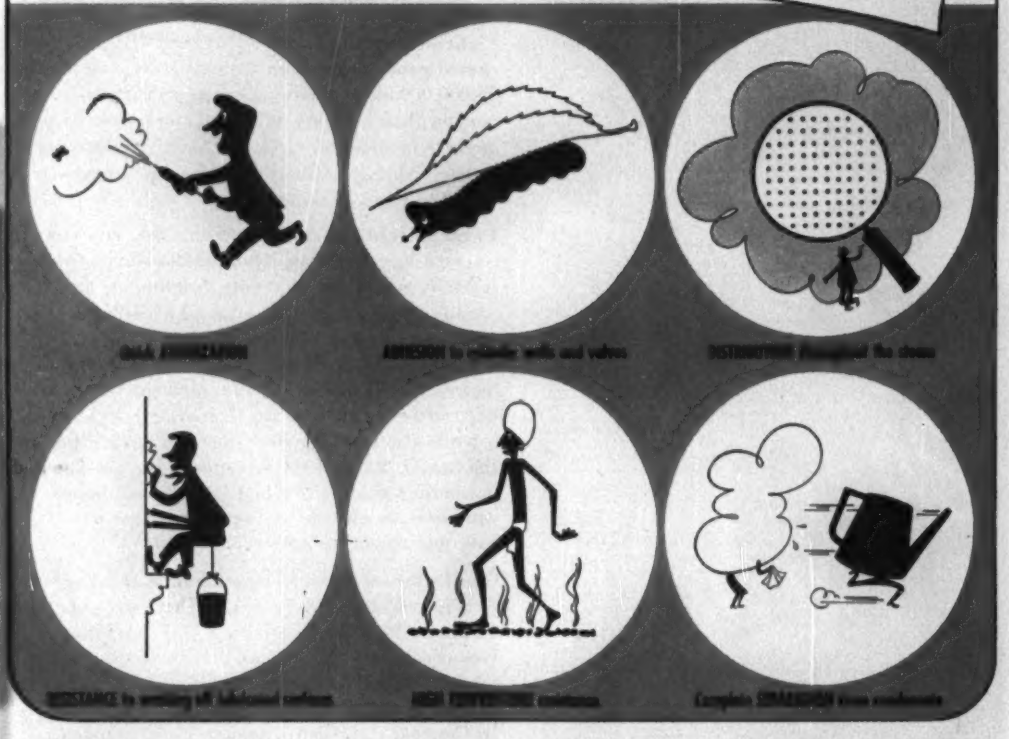
Whatever you need in a Steam Cylinder Oil...

Sinclair has it!



No matter what your operating conditions—pressure, temperature, quality of steam; speed, loading; condensing or non-condensing—there is a Sinclair Steam Cylinder Oil made expressly to give the utmost in lubrication satisfaction.

Through proper combinations of steam cylinder stocks and compounding ingredients, Sinclair lubrication technologists have developed a series of steam cylinder oils to fit the operating needs of any installation. There are oils that provide quick atomization... persistent adhesion to cylinder walls in the presence of moisture... rugged, wear-resisting lubricating films under super-heat . . . or complete separation from condensate where that is the dominating requirement.

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for every steam engine installation

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ABC

Paper TRADE JOURNAL

ABP

Vol. 132 **FEBRUARY 9, 1951** **No. 6**

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NEXT WEEK

Part two of "Tex" Collins article, "Corrosion and Field Lining of a Sulphate Digester," allows the entire industry to benefit by the experience of this mill in combatting digester corrosion.

Viscosity Control of Concentrated Clay Suspensions by W. Millman, technical Director, Clay Division, J. M. Huber Corp., describes a method of reducing the particle size and controlling the viscosity of clay suspensions for use in paper coatings.

REMEMBER THESE DATES

FEBRUARY 19-22: Technical Assn. of Pulp & Paper Industry, Annual Meeting, Hotel Commodore, N. Y. C.

FEBRUARY 19-22: American Paper & Pulp Assn., Annual Meeting, Waldorf-Astoria Hotel, N. Y. C.

FEBRUARY 19-22: Nat'l Council for Stream Improvement, Annual Meeting, Waldorf-Astoria, New York City.

FEBRUARY 20-22: 17th Products Show by Purchasing Agents Assn. of Chicago, Hotel Sherman, Chicago, Ill.

FEBRUARY 21: Mass. Institute of Technology Alumni, Annual Luncheon in connection with TAPPI convention; 12:00 noon, Engineer's Club, N.Y.C.

FEBRUARY 21: New York State College of Forestry, Paper and Pulp Alumni; Annual Luncheon, Hendrick Hudson Room, Roosevelt Hotel, N. Y. C.

FEBRUARY 21: University of Maine, Paper and Pulp Alumni; Annual Meeting, Biltmore Hotel, N. Y. C.

APRIL 2-4: National Paper Trade Assn., Annual Convention, Waldorf Astoria, N. Y. C.

APRIL 17-20: American Management Assn., 20th Nat'l. Packaging Exposition, Auditorium, Atlantic City, N. J.

APRIL 30 - MAY 4: Materials Handling Conference; Held concurrently with Nat'l. Materials Handling Expo., International Amphitheatre, Chicago, Ill.

JUNE 24-28: Superintendents National Convention, Multnomah Hotel, Portland, Ore.

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Timely Suggestion for Board Mills

Large 1,000 F.P.M. size only 3' x 6' floor space and only 11' head room. No supporting structure required.

Mills still having trouble extracting sand and grit from dirty stock might consider this: The installation of a HYDRACLONE.

HYDRACLONES centrifuge heavier than water materials out of dirty stock more successfully than anything heretofore developed. And they do it with a fiber loss of only one pound per ton, a water loss of less than 100 gallons per 24 hours, the rejects coming out 60% dry.

Since a HYDRACLONE comes already assembled, takes little more floor space than a kitchen table, and can be installed and put to work in a matter of hours, it's no trick at all to put one in—immediately following the Hydrapulper.

Every HYDRACLONE so far installed has been an outstanding success, so get full particulars without delay.

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GET BULLETIN 11-SB

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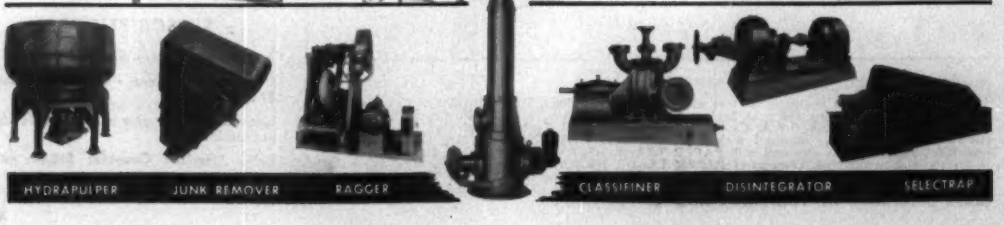
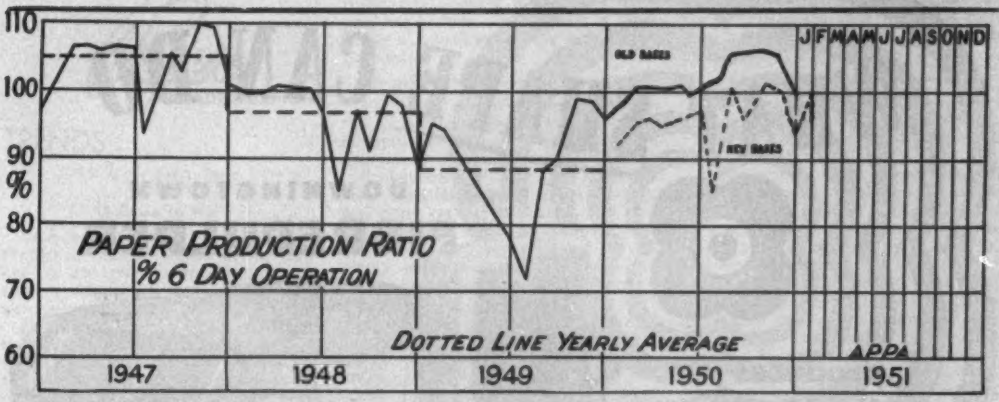




Weekly Brief of Important Figures

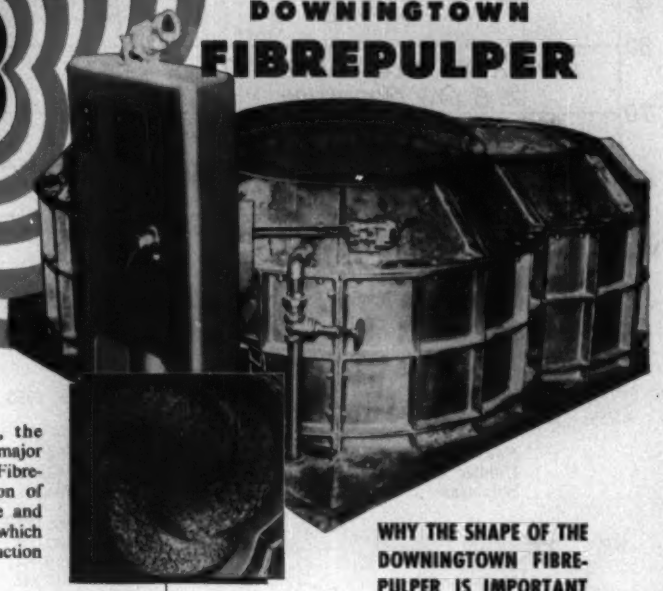
Source	Production	WEEK ENDING Jan. 27, '51	Dec. 30, '50	Jan. 28, '50
APPA	Paper Production Percent Capacity[2]	101.3	67.3	94.0
	Unbl. Kraft Paper Production Percent	96.6	59.9	91.1
NPA	Paperboard Operating Ratio Percent Inch Hours	104	63	92
		Dec. 1950	**Nov. 1950x**	**Dec. 1949**
APPA	Paper Production[3] (Except Newsprint and Building Papers) Tons	795,000	872,000	739,789
	New Orders Tons	792,000	831,000	729,665
	Unfilled Orders Tons	862,300	869,900	486,860
	Shipments Tons	805,000	872,000	739,566
		Dec. 1950	**Nov. 1950**	**Dec. 1949**
NPA	Paperboard Production Tons	862,905	1,168,958	827,400
	New Orders Tons	778,394	1,225,369	801,200
	Unfilled Orders Tons	617,245	722,046	359,300
	Our Customers Activities Index[1]	**Latest Mo.[6]**	**Previous Mo.[6]**	**Year Ago[6]**
FRS	Manufactures Total Index	226	230	180
	Durable Mfg. Index	260	264	181
	Nondurable Mfg. Index	198	202	178
	Chemical Products Index	283	282	247
	Mfg. Food Products Index	166	177	162
	Printing and Publishing Index	182	183	167
ODC	Magazine Advg.-Printer's Ink Index	342	342	308
	Retail Sales Combined Adjusted Index	324.0	322.9	301.0
	Drug Index	219.9	223.4	215.7
	General Merchandise Group Index	314.8	299.5	286.9
	Grocery and Combination Index	398.6	394.8	365.6
	Prices Index			
BLS	Consumers Price Index[1]	175.6	174.8	168.6
	Wholesale all Commodities[2]	171.6	169.1	151.6
	Wholesale Foods[2]	175.2	172.5	158.9
	Commodities other than Farm Products and Foods[2]	163.5	161.5	145.0
	Wholesale Pulp and Paper[2]	178.6	173.4	156.5
	Purchasing Power of Dollar, Consumers Prices[1]	56.9	57.2	59.3
	General Activity Index			
FRS	Mfg. Production-Worker Payroll	415.8	403.4	320.9
	Unemployment Compensation Initial Claims (M)	907	720	1,545
	Miscellaneous Carloadings–Thousands of Cars	1,569	1,673	1,250
	Electric Output (Million KW hr.)	34,072	34,307	28,616
PTJ	Average 32 P & P Common Stocks as of Jan. 30	$37.26	$33.02	$30.83
	Average Indicated Dividends Common Stocks as of Jan. 30	$ 2.39	$ 2.39	$ 2.29

[1] 1935-39=100 Unadjusted Index
[2] 1926=100
[3] New 6-7 day basis.
[4] For details see APPA Monthly Statistical Summary—December 1950 Estimated Figures
[6] Latest Month Available on Request
x Unrevised figures.

WHAT SHAPE CAN DO

produces **MORE** with **LESS** power

DOWNINGTOWN FIBREPULPER



Because of its unique design, the Downingtown Fibrepulper marks a major advance in stock preparation. The Fibrepulper requires less power per ton of product than any similar machine and provides these additional features which bring substantial savings in production costs:

1. Shorter pulping period with less hydration and higher freeness.
2. Faster time cycle, providing greater pulping capacity per machine.
3. Compact design takes less floor space.
4. Custom designed and built to meet your particular operating conditions and production requirements.
5. Smaller capital outlay with lower charges to overhead.

Write NOW for complete specifications and description of the Downingtown Fibrepulper giving tons-per-hour capacity needed.

WHY THE SHAPE OF THE DOWNINGTOWN FIBREPULPER IS IMPORTANT

The Fibrepulper is designed with four lobes, each of which develops its own stream of stock feeding the pulp back to the impeller in an interweaving, overlapping pattern. Stock circulating around the periphery is forced back to the impeller and is mixed uniformly with stock from other parts of the Fibrepulper (see illustration). The large impeller increases pulping rate *without* a proportional increase in power.

MORE EFFICIENT USE OF POWER — Much of the power, used only for circulating in a round tub, is utilized for pulping in the four lobe Downingtown design. Patents applied for.

DOWNINGTOWN MANUFACTURING CO., DOWNINGTOWN, PA.

Pacific Coast Representative: John V. Roslund, Pacific Bldg., Portland 4, Oregon.

DOWNINGTOWN FIBREPULPER

It's the Shape that makes the difference

DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY SINCE 1880

Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, February 7, 1951.

"A Cause To Win"

Easy as it would be to assume from the dailies that the *travail* of the ESA had reaped only national confusion, such a conclusion would be shallow and distorted.*

Despite the labor pains of ersatz strikes, the bewilderment about individual price and wage problems, there is a marked sense of cooperation emerging. Industry and general business in and around New York sees the pattern for the Defense Program developing, and the atmosphere is clearer and more optimistic.

With no sense of condoning current disorders and dislocations, it is conceded that if we are preparing for a long haul of defense and tensions, it is healthy that all in a free enterprise system take a look at what conditions are being frozen under controls.

It is imperative that we keep faith in the integrity of the average American, recalling the words of former President Herbert Hoover that we:

*"Pray hard, work hard, sleep hard and play hard. Do it cheerfully and courageously. We have a cause to win."**

Revision of OPA Schedules Recommended

WASHINGTON — Revision of the old OPA price schedules on waste paper, and paper and paperboard products to bring these into line with present industry conditions was recommended to the Economic Stabilization Agency last week by separate groups representing waste paper and paper and board industries.

The meetings discussed with Stabilization officials the effect of the new general price ceiling regulation on the industry, and particularly the impact of the old OPA price schedule as applied to these products. James T. Flannery, ESA consultant, presided.

After proposing that the schedule be brought up to date, it was tentatively agreed that a special committee be appointed from both the waste paper and the paper and paperboard industries, and that these meet in mid-February with government representatives.

In this connection the ESA has established a Forest Products Division which is currently tentative and skeletonized. It comprises two divisions: the pulp, paper and paperboard branch consisting of sections for pulpwood, waste paper rags and other fibres, market woodpulp, paper and paperboard respectively; and a lumber and wood products branch. The division is headed by a consultant to the ESA, John Bulkley.

*Source: "A Cause To Win. Five Speeches by Herbert Hoover," the *Freeman*, 240 Madison Ave., New York 16, N. Y.

Boxcar Shortage Threatens Newsprint

The tardy return of box cars from the U. S. threatens to cut Canadian newsprint production. Aggravating the situation is the railroad tie-up here.

Spokesman for a major Canadian mill stated last week that the shortage had come earlier than usual, and that unless heavy tonnages of newsprint can be moved immediately, several plants will have to be shut down. Warehouses are reported to be almost full.

Though the condition is described as critical, so far as is known there have been no marked cuts in shipments and no losses in production.

At a time when all the newsprint Canada can produce is wanted by U. S. publishers and needed by anti-Communist publications abroad, any loss in production cannot be recovered.

Tally Europe's Newsprint Needs

Marshall Planners are reported to be tallying the newsprint needs of our European allies, and it is held to be likely that U. S. publishers may be asked to "chip in" from their small stocks.

Some really serious shortages are appearing in overseas markets which must be supplied if they are to be strong and well-informed allies, R. M. Fowler, president of the CPPA, told the annual convention in Montreal last week.

"Newsprint supplies in India, Pakistan and Ceylon, in Western Europe, in South American countries, and in Japan are probably inadequate to inform these peoples of what is going on in a troubled and disordered world," Mr. Fowler said. . . . "For better or for worse, pulp and paper commodities have more than a commercial significance. They are the fabric of civilization and essential elements in an efficient economy. During 1951, it may well become necessary for Canada to provide more pulp and paper for use in countries that we hope to have as strong partners in the present world struggle. The forecast of international policy and the needs of defense preparedness throughout the non-communistic world may over-ride purely commercial considerations in the coming year."

New British Newsprint Cut

LONDON — A new 5 percent cut in newsprint for British newspapers was announced by the Newsprint Supply Company for February 11. Stocks are said to be at the lowest point since 1940.

The newsprint organization will ask the Government to review the official policy of exporting newsprint when there is not enough for its own newspapers, most being reduced to six pages. (During the month of November — latest available figures — British exports amounted to 9,277 tons, most of which went to Australia. Total exported during the year 1950 was estimated by the Newsprint Association of Canada at 112,000 tons.)

Rosin Support Program Announced

WASHINGTON—Price supporting loan program for gum naval stores for the 1951 crop was announced last week by the USDA.

To encourage much needed production, the support level will be established at 90 percent of the parity price of crude pine gum as currently estimated or as computed April 1, 1951, whichever is higher.

The currently estimated 1951 support level applied to the naval stores production unit of 50 gallons of turpentine and 1400 pounds of rosin is $122.54. This per-unit support level or the one prevailing as of April 1, 1951, whichever is higher, will remain fixed throughout the loan period.

Under the 1950 loan program, the support price was $86.82 per production unit, 60 percent of parity as of April 1, 1950.

CCC Drops Gum Rosin and Potato Starch

WASHINGTON — Gum rosin totaling 189,066,254 pounds and potato starch were dropped from the list of February offerings of surplus commodities for domestic sale by Commodity Credit Corporation this week.

The rosin represents the total announced holdings of CCC, which apparently is now to be kept as a reserve against future enhanced demand. Last month, the CCC cut back amounts of naval stores it would sell for either domestic or export use, although starch was offered freely for all purposes, including production of alcohol for industrial consumption. Withholding the starch was interpreted to mean that an arrangement was close, if not completed, for using large quantities in the industrial alcohol program in place of grain.

Europeans Anxious About Rosin Controls

Gum rosin and wood rosin (except B wood rosin) last week were added to the "Positive List" of commodities which require validated licenses for exportation to countries in Group R or Group R and O, a move which has created much anxiety among European importers. Expressing the hope that the U. S. Government will not find it necessary to impose strict allocations, spokesmen for the group likened the situation to the system on sulfur, now shipped only on allocation. A vital need must be proven in order to obtain imports, he said.

—E. P. N.

Paperboard Production (Tons)*

	Jan. 27 1951	Jan. 20 1951	Jan. 28 1950
Production	242,721	243,416	208,435
New Orders	204,050	218,278	178,895
Unfilled Orders	659,340	705,371	337,705

* Source: NPA.

ALL-OUT PRODUCTION

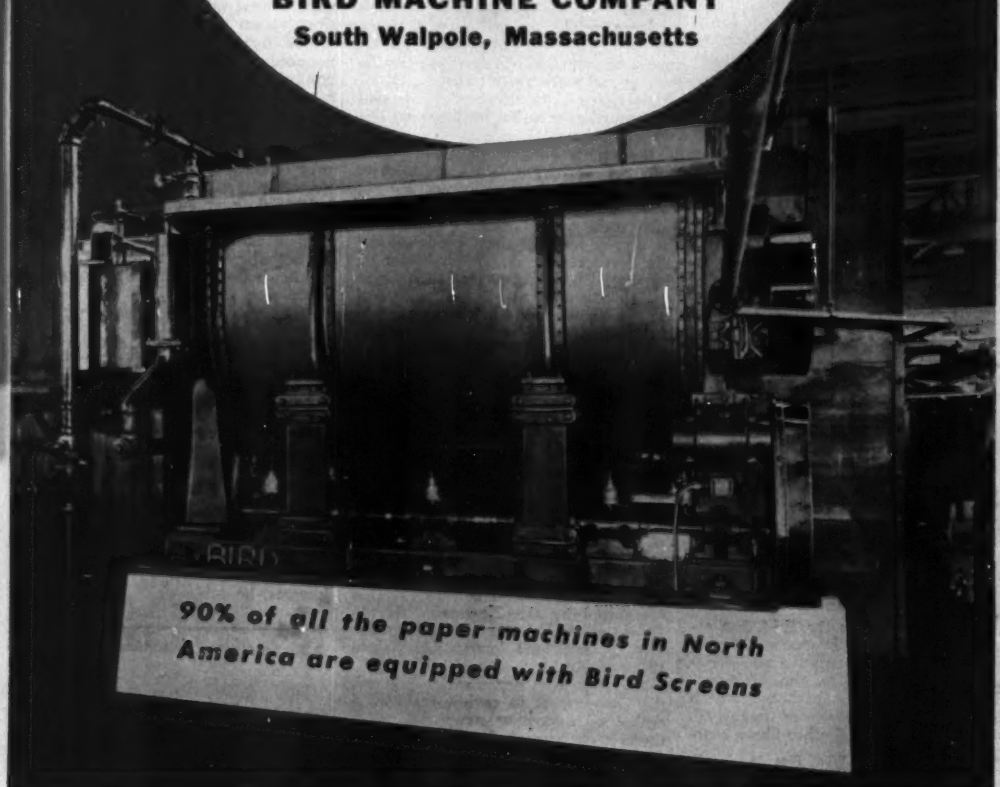
demands

BIG, MODERN BIRD SCREENS

—Screens that have the capacity to deliver all of the fibres that the paper machine can take—and the ability to deliver them clean, well combed, thoroughly individualized, uniform in weight, free of lumps, strings and slime.

Make certain that your paper screening operation is capable of meeting the responsibility for all-out production.

BIRD MACHINE COMPANY
South Walpole, Massachusetts



90% of all the paper machines in North America are equipped with Bird Screens

News of the Week

Paper TRADE JOURNAL

George M. Hunt, director of the Forest Products Laboratory at Madison, Wis., will retire on March 31 after 40 years of continuous service in the Forest Service of the U. S. Department of Agriculture . . . Mr. Hunt's successor will be Dr. J. Alfred Hall, director of the Pacific Northwest Forest and Range Experiment Station in Portland, Ore. Dr. Hall, in turn, will be succeeded by Robert W. Cowlin, present chief of the Division of Forest Economics at the Portland experiment station.

BATHURST STARTS PRODUCTION

Production has begun in the new semi-chemical pulp mill recently completed at Bathurst, N. B. The start up was quite successful and production is steadily increasing. A detailed story of this operation will be published in *Paper Trade Journal* at a later date.

For several years, Bathurst has been working on the production of high yield kraft pulps using Sutherland *Hot Stock Refining* and are now regularly producing these pulps at 62 percent yield as compared with an average yield of 47 percent in regular kraft mills.

A paper on this subject entitled "Some Physical and Chemical Properties of High Yield Kraft Pulps" was presented by J. M. Limerick at the recent meeting of the Technical Section of the Canadian Pulp & Paper Assn. Very favorable comments were received on this paper. One of the prominent officials of the industry made the following statement regarding this paper: "Before us we have an answer to the questions of conservation of our wood supply. It is a very practical one — making three cords of wood do the work of four."

EXPANSION AT. ST. JOHN

OTTAWA—Saint John Sulphite Ltd., of St. John, N. B., is embarking on a $20 million expansion program, according to K. C. Irving, president and managing director.

NEW CELLOPHANE PLANT

EAST ALTON, Ill.—The world's newest and most modern cellophane plant, now being built at Pisgah Forest, N.C., for Olin Industries, Inc., is scheduled to be in full operation by about September 1951.

The eight-machine Olin plant will produce an estimated 33 million pounds of cellophane annually, to help relieve the shortage of cellophane, which has existed since the beginning of World War II.

Mr. Olin described his company's entrance into the manufacture of cellophane as a logical expansion in a field, in which his company has had wide experience. Cellulose is the basic material for both cellophane and smokeless powder.

Ground was broken for the Olin cellophane plant at Pisgah Forest April 1, 1950, and construction is now rapidly going forward. Under the Olin licensing agreement with du Pont, du Pont has designed and is building the plant, furnishing full technical information, know-how and patent licenses, including the latest improvements in product and equipment.

The new Olin cellophane plant consists of one main irregular-shaped building about 300 by 900 feet, with eight smaller outlying units for auxiliary operations and storage. Parts of the operating sections will be air conditioned, as certain phases of cellophane manufacture require strict temperature and humidity controls. Highest point of the manufacturing building will be the six-story coating towers and the five-story chemical building. Principal structure will have a reinforced concrete foundation and floors, red jumbo brick walls, and a pre-cast concrete slab roof.

Southern Railroad has already completed its siding into the plant site, which also has facilities for truck transportation. Electric, water and steam services will come from the existing facilities of the Ecusta Paper Corp., which occupies the same site. Ecusta will continue to manufacture cigarette papers and other grades of fine paper, employing manufacturing processes fundamentally similar to those used in making cellophane.

Robert W. Lea, who is retiring as president of the Johns-Manville Corp., joined Olin Industries, Inc., as of February 1. Mr. Lea has been a director of Olin Industries since April, 1950.

PAPER BUYER WANTED

From March 6 through March 21, 1951, N.Y.C. Civil Service Commission will issue applications for the position of buyer (paper and paper products). This position pays a starting salary of $4400 a year at present. Applicants will need experience in the purchasing of stationery, printing, drawing, tissue, wax, glazed and blueprint papers; notebooks, book covers; standardized forms; binders; paper cups; drawing and writing materials, and any other paper products.

NORTHERN IMPROVEMENT PLAN

To keep fly ash from getting into the air when its new sulphite liquor disposal plant goes into operation, Northern Paper Mills has developed plans for a $150,000 installation of dust collectors. These plans have been submitted to Anthony F. Sidlow, air pollution control engineer of the city of Green Bay, and he has approved them for installation and subsequent testing to check that their performance will comply with the city's air pollution ordinance.

"A long-standing worry of pulp and paper industry technologists in connection with getting rid of spent sulphite liquor by the evaporation and burning process has been the problem that would result from fly ash," explained Harry W. Gochnauer, chief engineer of Northern Paper Mills. "Spent liquor contains a considerable quantity of calcium, some of it derived from limestone used in making up the cooking liquor and the rest dissolved from the wood chips during the pulping process. When calcium is burned much of it breaks up into an extremely fine powder which tends to escape into the air and blow around.

"Before deciding to adopt the evaporation and burning process after we had satisfied ourselves that we knew how to perform the other operations involved, Northern had to make sure that it would be possible to overcome this problem and comply with the city's air pollution standards. We therefore embarked on a course of experiments and engineering studies which were completed only within recent weeks.

"First, we had to burn sulphite liquor to find out how much calcium dust would probably go up the stack, and also to collect enough of this fly ash to permit thorough tests by our own staff as well as by outside engineering authorities and equipment manufacturers. Participating with us

in these burning experiments were city air pollution engineer, A. F. Sidlow, engineers from American Blower Co., and from our consulting engineering firm, Sargent and Lundy of Chicago. We burned 30,000 gallons of liquor concentrated to 60 percent solids content, using 20 gallons per minute through a single burner.

"Tabulation of the results showed that the particles of fly ash produced from burning sulphite liquor are 50 percent finer than the particles produced from burning powdered coal," Gochnauer continued. "Mechanical equipment for catching this fine fly ash by a centrifugal process had to be of greater capacity, fans and motors had to be heavier, and so on all the way through. New specifications were accordingly prepared and orders have been placed for the equipment. These will be used to improve the dust collection performance of all of our boilers, including those already equipped for collecting powdered coal fly ash. The equipment manufacturers guarantee that 88 percent of the fly ash will be recovered and anticipate 90 percent will be reached.

"Installing this equipment will be a big undertaking," Gochnauer pointed out. "It will have to be set into three boilers, and if we are to keep operating without a partial shutdown of the pulp mill we cannot spare any of the boilers for more than a day or two at a time. Our engineering staff and the dust precipitator manufacturers' engineers are now at work attempting to devise some way by which the equipment can first be put in place and then connected up over a week-end or holiday shutdown to avoid temporary curtailment of employment and loss of production.

"This fly ash project is a major step in Northern's program for reducing air pollution from its mill operations in Green Bay. Another substantial step recently taken by the company was shifting over three woodyard cranes from coal burning to oil burning to eliminate smoke from this source."

ASSOCIATIONS

AMERICAN PULPWOOD PROGRAM

"The Role of the Pulpwood Industry in Industrial Mobilization" will be the general theme of the annual meeting of the American Pulpwood Assn., being held at the Waldorf-Astoria in New York on February 19, 20, and 21. The sessions for this organization will cover all aspects of the production and procurement of pulpwood during this critical period in which the industry is being called for its greatest delivery quotas in the face of increasing difficulties. The subjects to be presented were selected to be of the greatest possible use to the members of the pulpwood industry. Non-members who are associated with any phase of the pulp and paper industry, as well as suppliers, are invited to attend the open sessions.

The following outline gives some idea of the scope to be covered:

February 19—(Open Sessions)

Joint meeting of technical committees — Room 4-M.

MORNING PROGRAM:

1. Regional Reports
2. Schedule of Meetings
3. Manpower and Equipment Survey
4. Starting Mechanized Operations

LUNCHEON: 12:15 p.m. to 1:45 p.m. at the Florentine Room of the Hotel Lexington (Individual charge per plate)

LUNCHEON SPEECH: "Efficient Pulpwood Production in 1951"

AFTERNOON PROGRAM:

1. Maintaining Equipment
2. Training Labor
3. Forest Practice and Fire Protection Standards
4. Railroad Pulpwood Car Design and Supply
5. Other Business

February 20—(Open Sessions)

Seventeenth annual meeting—Basildon Room, The Waldorf-Astoria.

REGISTRATION: 8:30 a.m. to 9:30 a.m.

MORNING PROGRAM:

1. Welcome by President of Association: J. E. McCaffrey, International Paper Company, Georgetown, South Carolina
2. "Role of Pulpwood Industry in Industrial Mobilization" — by an outstanding member of the Industry
3. "Status of Plans of National Production Authority as they may affect the Pulpwood Industry" — by a member of National Production Authority
4. "Relationship of Economic Stabilization Agency and the Pulpwood Industry" — by a representative of the Economic Stabilization Agency
5. "Background and Status of ECA Loans affecting Pulpwood" — by a representative of the Economic Cooperation Administration
6. Panel Discussion — "Getting Action Cooperatively between Pulpwood Industry and Government Agencies." This panel is to include representatives from National Production Authority, Economic Stabilization Agency, U.S. Employment Service, U. S. Forest Service, U. S. Selective Service, Economic Cooperation Administration, and 5 representatives of Industry.

LUNCH PERIOD:

AFTERNOON PROGRAM:

1. "Manpower — The Bottleneck of Production" — by a key speaker in Industry or Government
2. "Responsibilities of Top Management and Supervisory Personnel in Pulpwood Production" — a member of Industry
3. Panel Discussion — "Use of Public Relation Techniques in Aiding Pulpwood Industry to Maintain Pulpwood Production." This panel is set up to include representatives from American Forest Products Industries, Inc., Southern Pulpwood Conservation Association, and 6 representatives of the Pulpwood Industry in all regions east of the Rocky Mountains.

Annual dinner of American Pulpwood Assn.—Astor Gallery, The Waldorf-Astoria — Cocktails 7 p.m.; Dinner 7:30 p.m. Tickets to be purchased when registering for A.P.A. meeting.

February 21—(Closed Sessions)

Annual meeting of industry members — Perroquet X, The Waldorf-Astoria, 9:30 a.m.

Annual meeting of board of directors — Perroquet Y, The Waldorf-Astoria, 2:30 p.m.

Attendance at annual meetings of the American Pulpwood Assn. has been steadily increasing in the course of its 17 years of activity. It is supported by companies who provide the pulpwood production of more than half of the total east of the Rocky Mountains, and includes more producer members than pulpwood-consuming members among its supporters. In the past year, more than 20 subscriber memberships have been added to the list of those supporting the association. Most of these represent manufacturers of logging and other pulpwood equipment. It is expected that the addition of this new class of membership, the increasing interest in association activities, and the timely subjects lined up for this meeting will develop a well-attended, successful meeting for the association this year.

ADLER HEADS P. P. T. A.

With over 350 men present, half of whom were millmen representing as a group about every mill which does business with the paper merchants in the Quaker City, the 47th annual reception and dinner of the Paper Trade Assn. of Philadelphia was a memorable event.

Held at the Warwick Hotel on January 10, the program included an address by Gene Kelly, radio broadcaster for the Philadelphia Phillies, and Dr. William Stanley Sims, who was toastmaster. Dinner music was by the Taylor & Smith orchestra, and harmony singing by the Suburban Squires.

The annual meeting and election of officers was held at noon in the auditorium of Printing Industries of Philadelphia, 1234 Locust street, followed by the reception and dinner in the evening.

Officers elected for 1951 are: Henry L. Adler, president; Edward V. Furlong, vice-president, Fine Group; Harry Clair, vice-president, Wrapping Group; Edwin V. Rementer, treasurer; Edward W. Hartung, secretary; and David Stockslager, executive secretary.

Newly elected to the board of governors for three-year terms are, for the Fine Division, D. Kipp Conover of Paper Merchants, Inc.; Willson Whiting of Whiting-Patterson Co. For the Wrapping Paper Division, Edwin V. Rementer of Hooper Paper & Twine Co., and Henry L. Adler of Huff Paper Co.

Our Wool Problem

"Sorry, Soldier, no overcoat. Didn't you know there is no wool?" Seems unbelievable but it actually has happened.

This could be said also, "Sorry, Papermaker, no felts, we cannot buy the wool in kinds and grades that we need for your production."

Papermaker felts, a small item normally, but today under present world conditions, an item almost as precious as diamonds and rapidly approaching its worth in gold. The price rises during the past year have no doubt caused some shock to papermakers. What is behind it and how serious is the situation?

First, we all know that we cannot make paper without felts. Everyone knows that these felts are specially made, and must stand terrible strains and stresses during their life. Not only must they be effective water removers, but they must also transmit considerable power to drive heavy equipment.

As a result of these demands special wools are required. They are purchased from Ireland, New Zealand, South Africa and South America. Each felt is thus a blend of many grades drawn from around the world.

Wool must, therefore, be purchased at auction at world prices, during the selling seasons, far in advance of actual weaving.

Chart I illustrates the effect of Korea on wool prices used in papermaking felts. This information was calculated by a felt manufacturer of 45 years' experience. A blend of 50/50 domestic and foreign felt wool cost $1 per pound a year ago. To replace it, as of January 20, 1951, would cost $2.50 per pound.

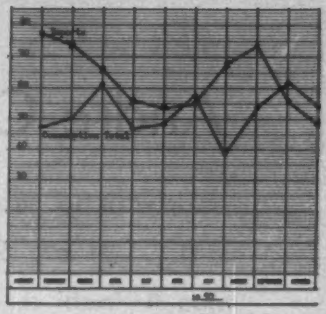
The effect on the cost of a finished felt is very apparent. We should not neglect the effect on the capital structure of the felt maker. In order to do business at least six months' inventory is required and often a year's supply is necessary. It is not unusual to have a $1,000,000 in wool inventory at normal prices. Today's conditions would require at least $2,500,000 tied up in wool alone. Thus, there is created a major financial problem.

Chart II illustrates our total consumption and our dependence on imports, a far from rosy picture.

A further complication in the current shortage is the wild grab for wool at any price by cloth and carpet manufacturers. Normally, these people do not buy the grades used by felt makers, but currently wool is wool and they are actively in the market.

We are faced not only with high prices and low supply in the grades we must have, but with abnormal competition.

How much do we need? *Chart III* shows the trend of consumption over some 20 years. Better machinery and better design has steadily decreased the amount required per ton but with the production increases of the past few years we now are using and need if this production is to maintain 10,000,000 pounds per year. This amount would hold us at current operating levels, with no consideration being given to expansion of the industry. Altogether our papermakers felt consumption is not large, only about 2 percent of our total consumption, but how we need it.



Dept. of Commerce

Chart I

What can we do about it? Papermakers guard your felts as you would your life. Gone are the days of indifference. No longer can you ignore poor felt rolls and bearings. There is plenty of room for improvement on the old machines.

Washington planners take note, you have got a job to do to see that the special grades so vital are not drained off to less essential needs.

If we fail, Sorry Papermaker, no felt; Sorry Everyone, no paper.

Chart II

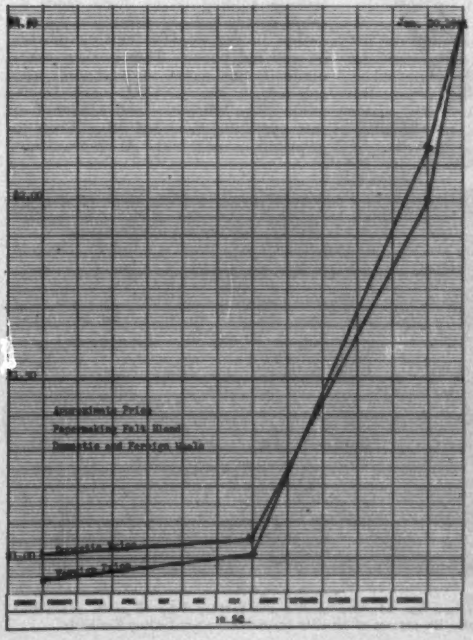
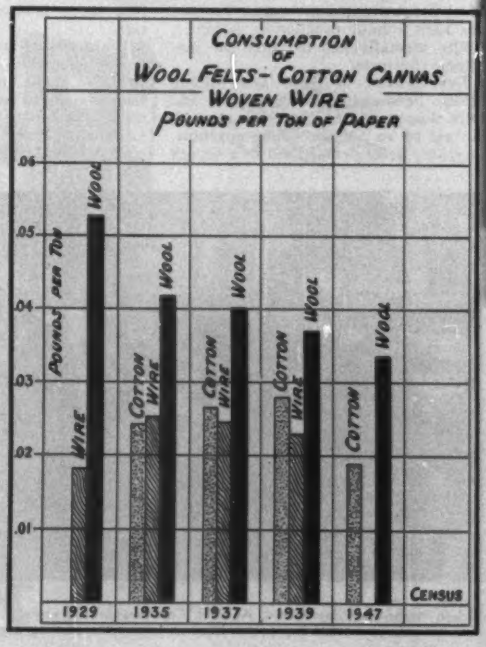


Chart III



Andre Completes Half-Million Dollar Plant

Completion of a new half-million dollar factory has written the latest chapter in Andre Paper Box Corp.'s growth. The company was founded in 1936 with only a back-alley plant, a $350 investment and the determination to make better packages.

Andre's new plant is located across San Francisco Bay at San Leandro, Calif. In announcing its completion, Noble Andre, owner and general manager, said: "We are now in full production — in fact, the new factory is making as many boxes in a single day as the company made during its entire first year of operation. We're proud of that, but we're just as proud that we're still making boxes there for most of our original customers."

Much of the company's progress during the past six years may be traced to its work with laminated board. Today 90 percent of its operations deals with lamination in one form or another. The new laminated folding boxes, for example, have virtually replaced set-up boxes in many major West Coast department stores. To gain this high volume production, however, Andre virtually had to enter the machinery business.

Development of these new folding boxes, lined with fancy papers and foils, was started by the company with the aid of an old sheet-liner machine. Increased sales demand led to a search for a machine capable of producing laminated sheets which would lie flat without curling at high speeds. Such a machine could not be located. Consequently, Mr. Andre secured four of the best engineers available in the mechanical, electronic and chemical fields, and plans were drawn under his direction for a laminator of his own design.

At left, Noble Andre, shown with an array of packages made under Andre's special laminated board process. At right, Andre Paper Box Co.'s new half-million dollar plant.

Word spread rapidly through the industry about this new development. In 1949 one of the large paper mills asked the company to build a similar unit for them. The resulting ANDRE-matic Laminator embodied all of the principles of the first machine, with greater strength and the ability to stand up under extremely high speed production. Completely automatic, it requires only two operators. Its features include electric eye registration control, special "anti-curling" safeguards and automatic sheeting and stacking.

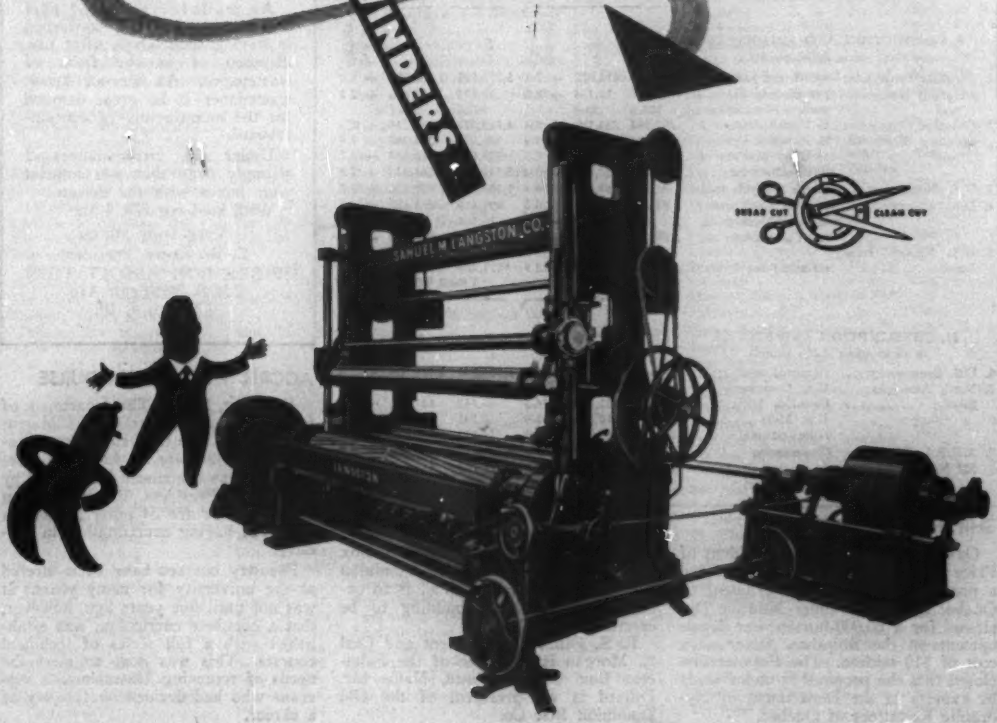
Under the new Andre method of making folding boxes, high speed 4-color rotary presses print the desired design in register for cutting presses on roll-fed paper. This is then automatically laminated to boxboard, also roll-fed, by the ANDRE-matic Laminator. The efficiency and economy of this operation have led other firms to acquire the machines. At this writing,

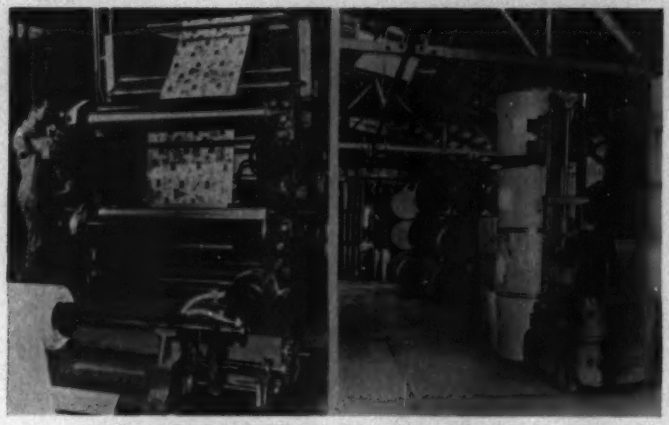
At left, Andre-matic laminators. At right, Cantilever-braced roofs in Andre's new San Leandro folding box factory keep all of its space free of columns or bracing posts. This view shows the printing department, with presses of all sizes for maximum production flexibility.

LANGSTON SLITTERS AND WINDERS

For many Winder or Rewinder jobs, from 62" to 122", the Langston "CA" is ideal. It can be built to operate at speeds up to 3000 FPM and handle rolls up to 60" in diameter or, on special order, 72". For complete details on this and other sizes, ask for Bulletin 204.

SAMUEL M. LANGSTON COMPANY, CAMDEN, N.J.





At left, The desired design in perfect register is printed on roll-fed paper by high-speed Wolverine 4-color rotary press. This paper is then automatically laminated to roll-fed boxboard by a special Andre-designed machine.

seven such units are operating successfully in various parts of the nation.

Demand for Andre's laminated boxes kept growing and the production facilities of its big Mission street plant became inadequate. Thus the present five-acre site at San Leandro was purchased. Construction of the new steel and concrete factory began early in 1950. During the same period the company's marketing area was extended to the Midwest with the establishment of another factory and sales office at Chicago.

DECEMBER NEWSPRINT REPORT

NEWSPRINT ASSOCIATION OF CANADA, MONTREAL

I. PRODUCTION AND SHIPMENTS in short tons: 2,000 pounds.		DECEMBER 1950	DECEMBER 1949	DECEMBER Percent Change	YEAR TO DATE 1950	YEAR TO DATE 1949	YEAR TO DATE Percent Change
1. Canadian Production: including Newfoundland	month and year to date	430,551	414,872	+ 3.8	5,278,585	5,176,327	+ 2.0
	per working day	17,646	16,334	+ 8.0	17,194	16,806	+ 2.3
	percent of capacity	103.6	98.4		101.0	101.2	
2. Canadian Shipments: including Newfoundland	to United States	397,243	384,181	+ 3.4	4,742,377	4,380,250	+ 8.3
	to Canadian Consumers	72,304	30,222	+ 6.9	360,453	335,381	+ 7.5
	to Other Markets	13,228	20,249	— 5.0	287,863	448,697	—53.7
	total: all markets	448,775	434,652	+ 3.2	5,310,633	5,164,332	+ 2.8
3. U.S. Production:	month and year to date	83,780	69,854	+19.9	1,003,597	899,528	+11.6
4. U.S. Shipments:	to U.S. Consumers	85,567	71,176	+20.2	991,019	883,657	+12.1
	to Other Markets	634	1,079	—41.2	15,151	14,003	+ 8.2
	total: all markets	86,201	72,255	+19.3	1,006,170	897,660	+12.1
5. U.S. Imports from Europe:	estimate; see Table 8	*17,400	12,093	+43.9	*171,828	254,749	—32.6

II. CONSUMPTION AND STOCKS in short tons: 2,000 pounds.		DECEMBER 1950	DECEMBER 1949	DECEMBER Percent Change	YEAR TO DATE 1950	YEAR TO DATE 1949	YEAR TO DATE Percent Change
6. U.S. Consumption:	estimated total	520,665	483,762	+ 7.6	5,936,941	5,529,206	+ 7.4
7. North American Stocks:	U.S. Consumers	577,090	608,807	— 5.2	577,090	608,807	— 5.2
	Canadian Mills	89,142	121,190	—26.3	89,142	121,190	—26.4
	U.S. Mills	8,241	10,814	—23.8	8,241	10,814	—23.8
	estimated total	674,473	740,811	— 9.0	674,473	740,811	— 9.0
8. A.N.P.A. Report: 525 Newspapers	Consumption	398,309	372,497	+ 6.9	4,541,760	4,257,489	+ 6.7
	Stocks (tons)	424,960	445,863	— 4.7	424,960	445,863	— 4.7
	Stocks (days)	33	37		33	37	

SHIPSHAW DEVELOPMENT

OTTAWA — A. C. Price, president of Price Brothers & Co., Ltd., has placed a proposal before the Government of Quebec through Premier Maurice Duplessis for a 60,000-horsepower development on the Shipshaw River at a cost of $10 million. The Premier disclosed that the proposal is under study by experts of the Department of Hydraulic Resources of Quebec.

BOX PLANT FOR VIDALIA

VIDALIA, Ga. — The Palmetto Box Co., an affiliate of the Old Dominion Box Co., of Richmond, Va., is to occupy a new factory building to be erected on Ward street.

E. S. Dillard is president and Carl E. Morgan is treasurer of the Palmetto Box Co., Charlotte, N. C. Mr. Dillard is vice-president of the Old Dominion Box Co.

Letter to Editor

January 29, 1951
File # 1377

To Members:
Fibre Box Industry
Wastepaper Conservation Program Imprint on Fibre Boxes

Gentlemen:

The Eastern Conservation Committee of the Wastepaper Consuming Industries and the Midwest Consumers of Wastepaper are now conducting "Save Wastepaper Campaigns." These groups ask that manufacturers of fibre boxes imprint the boxes with a design as shown below.

As manufacturers of fibre boxes, we are deeply concerned in having such boxes, after use, disposed of in the form of wastepaper. As we all know, wastepaper is in great demand for the manufacture of containerboard.

Under the circumstances, I strongly urge that you imprint your boxes with the design.

With kind regards, I am

Very truly yours,
C. W. Evert, President
FIBRE BOX ASSOCIATION
224 S. Michigan Ave.
Chicago 4, Ill.

ACCREDIT FORESTRY COURSE

AMHERST, Mass.—The department of forestry at the University of Massachusetts has been notified of accreditation by the Society of American Foresters, it was announced January 17 by University President Ralph A. Van Meter. There are 24 other schools in the U. S. having accreditation in forestry.

Forestry courses have been offered at the university for many years. It was not until five years ago, however, that a complete curriculum was established with a full series of technical courses. This was done to meet the needs of returning Massachusetts veterans who had decided on forestry as a career.

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BROOKOVER, THOMAS E.	Aug. 10	20
BURDSALL, JOHN E.	July 6	24
CALLIGHAN, OLIN W.	Nov. 30	242
CARLIN, T. J.	Nov. 30	171
CAULFIELD, J. G. L.	Nov. 30	125
CHAMBERLAIN, L. B.	Oct. 5	30
CHANDLER, BERNARD A.	Sept. 28	31
COLLINS, T. T., JR.	Oct. 12	30
CUNNINGHAM, JAMES D.	Aug. 31	26
DANIELL, WARREN F.	Nov. 30	278
DARRAH, JOHN C.	Nov. 30	131
DAY, ROBERT A.	Nov. 30	316
DEMERITT, DWIGHT B.	Nov. 30	108
DOBROW, M. C.	Nov. 9	22
DOUGLAS, IRWIN B.	Nov. 30	99
DOYLE, J. S.	Sept. 7	164
EDGE, JACOB V.	Dec. 28	20
ENGLER, W. N.	July 20	25
EVEREST, D. C.	Nov. 23	34
FERGUSON, G. H.	Sept. 7	123
FIEBERTS, HARRY	Nov. 2	21
FISHER, M. H.	Sept. 7	152
FREESE, FRANK, JR.	July 20	34
FOSTER, S. L.	Aug. 10	37
GIBBS, RALPH E.	July 13	30
GILLETT, CHARLES A.	Aug. 17	27
GISCHIG, L. C.	Aug. 31	21
GREELEY, W. B.	Dec. 7	18
GRIDER, H. W.	Aug. 31	21
HALL, R. W.	July 6	15
HAMPSON, C. G.	Aug. 10	27
HASTINGS, EDWIN CHESTER	Aug. 17	22
HAUG, ARTHUR J.	Sept. 28	22
REHON, COL. ALEXANDER E.	Dec. 21	28
HORVICK, E. W.	Nov. 9	33
HUESTIS, C. S.	Nov. 30	299
HUGHES, J. W.	Dec. 28	23
HUME, ROBERT M.	Nov. 30	121
HYLAND, PROF. FAY	Nov. 30	87
HYTTINEN, AXEL	Aug. 3	26
JOLLEY, R. S.	Nov. 16	25
KEITH, EWARD W.	Nov. 30	178
KETCHEN, W. A.	Sept. 7	78
KEYES, JOSEPH F.	Dec. 7	20
KLEIN, FREDERIC S.	Nov. 30	335
KINGERLEY, R. W.	Aug. 3	19
KUMLER, RALPH W.	Nov. 30	259
LAMB, E. L.	Nov. 30	279
LANGWORTHY, M. L.	July 6	15
LINZELL, J. E.	Sept. 7	133
LUNDBERG, A. H.	Nov. 30	147
MACARTHUR, R. A.	Aug. 31	21
MACCOULL, NEIL	Dec. 21	26
MACCOULL, NEIL	Dec. 28	14
MALOY, R. H.	Dec. 21	18
MCCLELLAN, JAMES C.	Oct. 5	25
MCGINN, E. P.	Dec. 14	33
MCGINN, E. P.	Sept. 7	57
MCGINN, E. P.	Sept. 7	123
MCGINN, E. P.	Sept. 7	109
MCGINN, E. P.	Sept. 7	91
MCGINN, E. P.	Sept. 7	122
MCKEE, S. A.	Sept. 21	19
MOORE, J. C.	July 6	20
MURTFELDT, L. W.	Sept. 21	23
NEUBRECH, W. LEROY	Dec. 7	22
NEWBERG, RAYMOND G.	July 20	32
NIEMEYER, JOHN H.	July 13	22
NIVISON, ROBERT, JR.	Nov. 30	115
OVERBAGH, J. S.	July 29	26
OYSTER, L. S.	Aug. 24	16
PARSONS, DR. JOHN L.	Nov. 30	216
PASCOE, T. A.	July 13	16
PERRY, HENRY J.	Dec. 21	21
PERRY, HENRY J.	Nov. 30	152
PERRY, HENRY J.	Dec. 14	28
PERRY, JOSEPH A., JR.	Nov. 2	24
PHILLIPS, NOEL R.	Nov. 30	211
PIERCE, L. A.	Nov. 30	203
PRATT, HAROLD	Nov. 30	264
RABAK, WILLIAM	Aug. 24	28
REDDEN, C. A.	Nov. 30	109
REID, LEWIS S.	Nov. 30	324
REYNOLDS, A. P.	Nov. 30	310
ROBERTS, FRANK W.	Nov. 30	191
ROGERS, C. E.	Nov. 16	25
RUMBLE, F. H.	Oct. 12	28
SCHAFER, E. R.	Aug. 3	26
SCHEFFER, THEODORE C.	July 13	16
SCHEYE, KLAUS G.	July 20	36
SCHWARTZ, EUGENE A.	Sept. 7	156
SHELHORN, DR. F. B.	Nov. 30	235
SHERMAN, W. A.	Oct. 12	19
SKINNER, E. S.	Aug. 3	24
SKINNER, HAROLD A.	Nov. 16	24
SNYDER, J. H.	Nov. 30	142
SODERBERG, F. A.	Nov. 30	250
STEARNS, E. I.	July 13	24
STEELE, C. W.	Nov. 23	30
STEVENS, ELMO B.	Nov. 30	341
STEVENSON, LOUIS T.	Sept. 14	26
SUNDSTROM, R. O.	July 13	24
SUTHERLAND, LIONEL M.	Nov. 23	25
TARBELL, LESTER J.	Nov. 30	308
TEEPLE, H. O.	Nov. 9	28
TEEPLE, H. O.	Nov. 16	19
TEEPLE, H. O.	Nov. 23	14
THODE, DR. EDWARD F.	Nov. 30	287
TINKER, E. W.	Dec. 14	30
TUCKER, L. B.	Nov. 30	226
TURBYNE, JOHN J.	Nov. 30	257
WELLS, J. O.	Nov. 9	23
WERNER, DR. T. H.	Nov. 30	158
WHITE, H. S.	Sept. 21	19
WILLIAMS, CRANSTON	Sept. 7	56
WILLIAMS, CRANSTON	Oct. 12	12
WILLINS, LINWOOD G.	Nov. 30	183
WRIGHT, D. E.	Sept. 28	24

HONOR PHILIPPINE MILL

The Piche's committee of industrial award selected the Compania de Celulosa de Filipinas, Inc., to be this year's recipient of the industrial plaque for outstanding contribution to Philippine industry and technology at the third annual convention of the Philippine Institute of Chemical Engineers.

The Compania de Celulosa, an affiliate of the Compania General de Tabacos de Filipinas (Tabacalera), was established in 1940, with plant at Bais (Oriental Negros), is the first not only in the Philippines but also in the world to make bond paper using sugarcane bagasse as raw material. Output is now 15 tons of bond or writing paper daily.

The mill uses the Celdecor-Pomilio continuous pulping process, and Cellulose Development Corp., Ltd., are technical consultants to it.

PROMOTIONS AT MANISTIQUE

MANISTIQUE, Mich. — Three promotions are announced at the plant of the Manistique Pulp and Paper Co. here by R. G. Hentschell, general manager. John Fisher, who has been laboratory technician at the plant for the past two years, is being transferred to the research and development department of the Mead Corp. in Chillicothe, O. Replacing Fisher is Harry Kinne, who has been superintendent of the pulp mill. The new pulp mill superintendent will be Frank Hoholik, who has been personnel director of the mill for several years.

PARLEY IN WOOD RESEARCH

KALAMAZOO, Mich. — Advisory committee on forest products research at the Michigan College of Mining and Technology met recently at Western Michigan College here. Reports of progress were submitted to the committee by Dr. Hereford Garland, director of forests products research at Michigan Tech., and by Professors A. W. Toole, W. A. Koepp, and L. H. Hooker, members of his staff. Dr. Grover C. Dillman, president of the college, also attended the meeting. Progress reports covered several current projects of the division in each of the following categories or research: industry development, utilization of low-grade lumber, hardwood fiber production and use, and logging research.

NOT INSECT BREEDER

VANCOUVER, B. C. — B. C. Power Commission has released findings of federal government scientists who have been making a study of possible infestation of timber in the area flooded at Campbell River, as a result of the John Hart power development. Federal government government scientists were asked to determine if insect invasion of timber that has been drowned by the flooding, and of the snags and dead falls constituted a hazard to nearby stands.

Their report by H. A. Richmond, chief entomologist, states that, while insects are at work on the drowned timber, they do not threaten mature timber stands, which are too remote from the lake to be affected.

This type of insect, wood borers and bark beetles, which attack the dead timber, do not attack the young growth which surrounds the lake.

Power Commission spokesman said crews are at work removing snags, deadfalls and the drowned timber from the flooded portion of the lake. In the meantime, the report has given the assurance that other timber in the area will not be affected.

Planning a Public Information Program*

Albert Arnst†

Private business today is merchandising intangibles as well as selling its tangible products. Pronounced ideological drifts toward socialistic systems of management, particularly in natural resources, show a growing need for the economic education of people in understanding how American business operates.

In selling its machine-made products, a company must study its customers' likes and dislikes. In merchandising intangibles, the same rule applies even more forcibly. The principal customers in buying "ideas" are the company's employees. Their thought impact on other people in their home community, like the slowly spreading ripples of a stone cast in a pond, have a saturating effect on their neighbors.

Today many of the nation's business men realize that they must devote as much time and effort to the "public relations" of their enterprises as on finance, distribution and production. They know that "good performance, unless publicly appreciated, is not good public relations."

Like an individual, a company must be a good community citizen as well as a good employer; it must work toward sound social as well as sound economic objectives. An effective public relations program has two purposes. It makes friends for the company and for its products among employees, shareholders and citizens, which helps create a receptive attitude and loyalty for home town industries. Good public relations also builds understanding, by increasing public and employee knowledge of the company, raising the level of economic understanding and convincing people of the merits of a free market system.

Companies engaged in harvesting timber and manufacturing forest products are special victims of public misunderstanding. Trees have always been regarded as an inviolate creation of God and as something to be preserved, not conserved. As yet, many people do not regard the forest as a replaceable resource, capable of supplying raw materials which can be regrown for future generations. They sentimentally curse any mortal who lays an axe to a tree, even if it is mature or overmature. The private lumberman, who has supplied lumber to meet this nation's peace and wartime needs, is usually regarded as a particular plunderer of timberland. Paradoxically, the state or federal manager of forests may be held in higher esteem, although the objectives, techniques and end results of all breeds of field foresters today are nearly identical.

In the conversion of trees into useful products, the lumberman has always been accused as being "wasteful," a harsh epithet applied by people unfamiliar with the close economic relationship between available markets and utilization of raw materials. Incomplete utilization of logs has not always been a wilful practice, but frequently one dictated by the lack of markets and associated manufacturing technology which can process at a profit certain sizes and species of "lower grade" logs.

The Weyerhaeuser Timber Co. found itself in this general predicament before formulation of its present long-range public information program. It had variously been accused of stripping the country, depriving future generations of forests, timber hoarding, monopolizing business and many other fancied sins. Because of the company's close mouthed attitude in telling people about its activities and their economic importance to twelve communities in western Oregon and Washington and southeastern Oregon, there was some prejudice directed against the company and its operations. As a grower of trees and manufacturer of forest products, the company had a dramatic story which needed telling.

A man buying a suit assures a good fit by having it tailored to measure. A company investing large sums in a long-range public information program, studies its public, defines the areas of misunderstanding and tailors a program to correct the weaknesses.

Who and what groups were unfriendly toward Weyerhaeuser and why?

To find the answer to this admittedly large problem, the company in 1947 conducted a public opinion poll in 10 Oregon and Washington plant communities. The poll was designed to measure employee and non-employee thinking on working conditions, labor relations, wages, plant-community relations, profits, taxation, sustained yield forestry and the company's competitive policies.

Crews with ballot blanks and an inquisitive air circulated among townspeople and workers and asked many leading questions to find out what Weyerhaeuser's neighbors thought of the company as a public citizen.

Is your work interesting? Is it apt to last as long as you want it to? Do you have a chance to try out your own ideas? What are your chances for promotion?

Is the company likely to develop labor-saving machinery which will put people out of work? Are its labor relations fair? Is the company progressive in developing safety devices?

Is the company interested only in profit? Does the company try to prevent competition? Does it try to influence legislation? Does it take leadership in community affairs

How much timber does the company own? What do you think of the company's sustained yield program? Does the company take too much for itself? Does it pay its fair share of taxes?

When tabulated and summarized the poll contributed valuable data, useful as a foundation upon which to build a public information program.

Two areas of major misunderstanding showed up clearly. First, the company must show how job security, opportunity and community stability were offered by Weyerhaeuser's tree farming and logging operations, because there was considerable concern over the possible impact of future unemployment, shortages of timber to feed the mills and the company's embarking upon a ghost-town mode of operation. Secondly, economic education was seriously needed to inform people that the company paid its fair share of taxes and other costs of environment.

Who were the people who knew least about the company's policites?

The poll showed greatest misunderstanding among working people and those newer to the area and people not close to company operations, unfamiliar with technical terms and unexposed to company employees. The poll also showed that much of the general public had a fairly favorable attitude toward the company.

What to do about it?

Any program must have a statement of objectives. Those formulated for Weyerhaeuser's public information

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† Department of Public Information, Weyerhaeuser Timber Co., Tacoma, Wash.

* Presented before the Society of American Foresters, Washington, D. C., December, 1950.

Figure 1—Dedication of Recreation Areas for Public Use is a more Recent Development in Weyerhaeuser's Public Relations Program, as Carried Out on Company Tree Farms. Figure 2—This Group of Californians Spent a Full Week in one of Weyerhaeuser's Five Public Parks on the St. Helens Tree Farm. Each is Developed with Rest Rooms, Tables, Benches and Stoves. Figure 3—Large Signboards Identify the Boundaries of Weyerhaeuser Tree Farms on Principal Public Highways. Figure 4—Boss Logger, Jim Bates of Weyerhaeuser's Vail Tree Farm, Shows a Centralia, Wash. School Teacher a Small Douglas Fir Seedling Seeded in Naturally on a Freshly Logged Area. Teacher Tours are becoming a Regular Feature of Weyerhaeuser's Public Information Program. Figure 5—A Feature of Plant Tours is an Explanation of the "Show-Me" Trip, done with Scale Models of the Plant Sites. Figure 6—Conducted Plant Tours are Given to Local Citizens and Tourists in nearly all Weyerhaeuser Plants. This provides an opportunity to Show People Modern Manufacturing Techniques and acquaint the Public with the Company's Whole Crop Utilization Program.

For a SURFACTANT
(anionic, non-ionic or cationic)

an **ANTARON** or an **IGEPAL**

an **IGEPON** or an **ANTAROX**

an **ANTARANE** or a **NEKAL**

an **EMULPHOR** or an **ANTARATE**

a **PREVENTOL, RAMASIT, NULLAPON, COLLORESINE** or other organic chemicals

Trade Names Reg. U.S. Pat. Off.

...one source of supply now serves all your needs

More than 30 major industries need one or more of the types of products suggested in the brief listing above. Now all are available from one source. One of these may make your product *easier to sell* or *less expensive to manufacture*.

As of October 1, 1950, Antara Products—General Aniline & Film Corporation was merged with the Organic Chemicals Division of General Dyestuff Corporation.

The new *Antara Products Division of General Dyestuff Corporation*, thus formed, will coordinate and handle the sales and services of all chemicals, intermediates, and allied products made by the General Aniline & Film Corporation.

Extensive research staffs and facilities support the development and application of all Antara Products—available to work with you in the improvement of an existing product or the development of a new one. Your inquiry is invited—without obligation. It will bring a prompt opinion as to whether one of the Antara Products may be adaptable to your needs. Kindly address your inquiry to Department 36.

NOTE: The Dyestuff Division of General Dyestuff Corporation will continue to operate as before, without change in personnel or policy.

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DIVISION OF

GENERAL DYESTUFF CORPORATION

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program were a simple phrasing of a complicated problem. "To convince people that the company is managing its timberlands and operating its mills in the best interests of all concerned: its employees, the communities in which it operates, the general public, the government, its customers and the shareholders." Thus were defined the six special groups toward which public information efforts were to be directed.

All groups needed to be given the following information:

1. The company is engaged in tree farming — growing, protecting and harvesting timber—to supply a continuous flow of raw materials for permanent operation of company mills.

2. The company is improving and expanding its manufacturing techniques, modernizing its machinery and expanding its operations, thereby providing more and better products, more jobs, better jobs and community stability.

3. The company is carrying on continuous research and development in whole crop utilization, so that a greater share of timber harvest is converted into saleable products.

4. The company is financially sound, ethical in its operation, and contributes its full share to the economy of the community, state and nation.

5. The company pays its full share of taxes.

6. The growing of trees is a long and costly undertaking with many risks and requires the cooperation of employees, the public and government in preventing fires and maintaining a tax structure which will allow the company to operate on a permanent basis.

7. The company is following a sound, practical plan of quality in making merchandise and selling products, which secures a steady market for Weyerhaeuser products, in good times and bad.

8. In the Pacific northwest great areas of land are valueless except for growing trees and the economy of the area is dependent on growing trees.

These broad objectives were redefined for specific groups which required special consideration. Employees, for instance, also were to be told other things: that the company was a good place to work; offered a fair day's pay for a fair day's work, opportunities for advancement, job security, safe and healthful working conditions; and gave recognition to individuals.

The public information program was initiated early in 1948. Weyerhaeuser at that time had one department responsible for the total job of communicating with both the general public and company employees. In late 1948 an administrative reorganization divided these functions between two departments, the Department of Industrial Relations and the Department of Public Information. The former processed all activities relating to employees, such as personnel, training, safety, labor relations and the general communications program. The second department became responsible for all communications with the general public, particularly on the community level approach.

Early in 1948 the first step in reaching the public-at-large was undertaken by the Department of Public Information. It consisted of a series of one-third page advertisements appearing monthly in about 50 daily and weekly newspapers in Washington and Oregon. The 1948 series featured one theme, tree farming, and presented various aspects of this program, told in simple language.

Coupled with this advertising program, tree farming progress and developments were stressed in all news items and feature material released through the Department of Public Information. A booklet "You and Your Company," published for distribution to employees, presented a pictorial history of the company's growth and accomplishments. A brochure "We Grow Trees" was printed in large quantities for teachers and other segments of the general public. Other media used in reaching both the public and employees consisted of motion pictures, plant employee publications, bulletin boards, speeches before civic groups, plant visits, traveling displays and the annual report. A press book reached all the editorial services of the region. Large billboard-type signs indicated the principal boundaries of tree farms on public highways. A 16 millimeter technicolor movie "Green Harvest" was completed and made available with a teacher's guide for classroom and other use.

In 1949 the continuing newspaper advertising campaign featured a twelve-month series on whole crop utilization as effected by plant integration and Weyerhaeuser's accomplishments in developing new uses for wood fibre. Other public information efforts, as in the case of the tree farm program, stressed this phase of the company's operations. A booklet "We Group Our Mills" was developed for public distribution. Editors throughout the region and country received another press book. A second traveling display, featuring large illustrated panels framing an automatic slide projector, told the manufacturing story in communities.

In 1950 the newspaper advertising program featured sales and merchandising of forest products. In the middle of the year, because of the Korean situation, this frequency and style was changed to the more appropriate theme: "American Production for Better Living in Time of Peace, Greater Strength in Time of War." Advertisements appeared twice a month instead of once. A brochure, "Men, Mills and Timber," was prepared for mass distribution to employees, shareholders and the general public. In this booklet Weyerhaeuser listed its accomplishments for the last ten years and described its greater readiness to meet the new war emergency.

During this entire period the company's program of plant tours received special attention. Visitors of all types, both local and tourists, were invited to see Weyerhaeuser mills in operation. Scale models of the plants at the host mills showed the integration pattern. Printed visitor's guides and other material were handed out as souvenirs. Teachers' groups became special guests on conducted "show-me" trips. Professional societies meeting in conventions in Portland, Longview, Seattle and other cities assigned a portion of their program to inspect Weyerhaeuser tree farms and plants. Many thousands of visitors took advantage of these guided tours and saw in operation tree growing and manufacturing programs which they had only vaguely understood.

The company sponsored several special projects of a community relations type. At its St. Helens tree farm in Washington it developed five public parks for recreationists, each equipped with tables, benches, stoves, rest rooms, firewood and camping facilities. On the Klamath Falls tree farm in southern Oregon, the company dedicated a monument and recreation area to commemorate six civilian victims of a Japanese bomb explosion during World War II. Special editions of newspapers were prepared in cooperation with local editors to describe new manufacturing facilities of a major nature, such as established at Springfield, Ore., in 1949.

Hospital programs in various cities were endowed through the separately organized Weyerhaeuser Foundation. At Oregon State College of Forestry and the College of Forestry at the University of Washington, research scholarships in forest management were established. High school libraries received book sets on the forest industry. Educational charts on the forest products industry were distributed to schools and the general public.

The annual report became a public information medium. It not only presented statistical financial data, but used illustrated articles and gatefolds to describe tree farming and wood utilization programs. Distributed to employees, schools and some of the general public, such reports served a valuable educational function.

These outlined activities were programmed and translated into action by the Department of Public Information. Meanwhile, the Department of Industrial Relations had also been working on a coordinated program beamed at the most important group in the public information field, the company's employees.

Although three of the branch plant operations published individually edited magazines, these communications reached only a small percentage of the

company's 12,700 employees. In July, 1949, Weyerhaeuser began publishing an overall company magazine mailed directly to every employee's home, so that its contents invited family reading. Edited by a separate staff, this publication helped tell the company's story to its workers. A typical issue includes economic background, feature articles on tree farming and manufacturing, safety program statistics and a report on new operations. At first issued bi-monthly, the magazine will appear monthly beginning in January 1951.

It is an axiom in industrial public relations that satisfactory management-employee relations are the most important phase of a public relations program. In the case of the Weyerhaeuser Timber Co., most of its public relations problems originated at a local level, at a branch plant, or in a plant community. Such problems should be handled locally, which requires the dissemination of the company's story and economic information on a personal contact basis, at the community and plant level.

A program was initiated to inform and train supervisory personnel and, through them, the employees. Because Weyerhaeuser's management is decentralized and because each branch plant tailors its own program with advisory assistance from the central Tacoma, Wash., office, the training program has varied considerably between branches. Essentially it consists of a series of dinners or other meetings at which foremen are given economic backgrounds of the company's operation as correlated with those of the American business system. This program recognizes the principle of two-way communication, essential in maintaining informational contacts between the company and its employees.

Within recent months the economic education program has been intensified. A staff member of Opinion Research Corp. has given a special chart-illustrated talk describing the results of opinion research studies made throughout the country, a presentation which clearly illustrates the basic misunderstandings people have with respect to America's free enterprise system. The talks have been given at the company's various branch plant operations, usually at dinners or luncheons attended by foremen, administrative personnel, and a representative group of local businessmen. Follow-up talks will tie in the first generalized program more closely with the company's operations and policies.

In the spring of 1950, a strike of millmen and loggers closed down several Weyerhaeuser operations. During the course of negotiations, the company sent individual letters to its employees, reporting on the conclusions reached at each of the sessions between labor and management. This communication informed employees as to progress being made toward a strike settlement and presented the company's story, which otherwise might have been left untold.

At the branch plant level, employee communications are handled in various ways. Because such communications should be from the employee to the company as well as from the company to the employee, suggestion boxes are standard equipment. In safety meetings between management and the workers, healthy discussion is enjoyed on many company problems. Grievance committees of the local unions bring up issues which need attention. At one plant a "Town Hall" session is held regularly in the plant cafeteria, at which employees may ask management any questions they wish on operating policies.

Social benefits to employees have been implemented. Some of the unions represented in the plants have a non-contributory pension plan. Another union recently received company-financed hospital-surgical-medical benefits for off-the-job injuries and sickness. Wage adjustments are handled through collective bargaining.

Weyerhaeuser's program as outlined is based on the concept that now is the time for plain talk between employees and management. This applies particularly to the people of the communities in which the company operates, because the employee becomes a part of that community as soon as he leaves

Figure 1—Tree-Topping by High-Climbers, a Necessary Step in Preparing Spar Trees for Logging, is a Thrilling Performance witnessed by Visitors to Weyerhaeuser's Tree Farms. Figure 2—Groups are Taken on Conducted Tours which Show Them the Logging Methods used in Harvesting Douglas Fir Timber.

his daily woods or mill job. The company, like many other American businesses, has been trying to do a good job in its corporate management of lands and mills, but the facts needed telling.

The big question now facing the company after about three years of concerted effort in the public information field is "Is Anybody Listening?" Can Weyerhaeuser point to any changes in attitudes on the part of people in general and employees in particular? Has the information been channeled through the proper media and is the payoff worth the expenditures?

Several methods are available for a follow-up sampling of public opinion. Acceptance of news stories as indicated by clipping services is one test. The editorial columns of newspapers and magazines, which partially reflect public reaction to news releases, feature articles and published material, have been almost completely favorable to the company's operating programs and policies. Many editorials have commented on specific accomplishments of the company. Such editorial recognition to some degree indicates community attitudes.

Within the last month another forest industry public opinion survey has been launched in one of Weyerhaeuser's most recent operating areas, where new mills, supported by a tree farm, have been established during the last two years. An intensive questionnaire sampling is being made of the entire community and trade area. New questions will be asked, many of which may help measure the "reaching" effects of the company's public information program on employees and the general public.

These are some of the new questions:

What lumber company employs the most people? About which company do you know the most? Which company does the most for the community? Which company operates most efficiently? What company makes the best use of logs in the manufacturing process?

When the tabulations are completed on this public opinion survey, Weyerhaeuser probably will know how effectively its many-pronged public information program has educated the people. Based on indicated areas of misunderstanding, revisions on policy can be made to suit the audience. A useful public information program must be designed to meet known problems, measured as accurately as possible by reliable surveys. There is no room today in the science of public information for a hit and miss program depending almost entirely on press releases or publicity. In the struggle to win the minds of men, a personalized approach must be used, aimed at definite objectives.

Corrosion—XI of Series

Corrosion And Field Lining of Sulphate Digesters

T. T. Collins, Jr.*, S. J. Baisch*,
G. T. Vander Velden*

The problem of corrosion of sulphate digesters has assumed considerable importance within recent years and most mills have become "digester corrosion" conscious as a result of the short life of some of the modern vessels. At the Thilmany mill we have been no exception to this rule in recent times, because of an accelerated corrosion in two of our present digesters. However, even prior to this, careful checks had been made on the wall thicknesses of our digesters at regular intervals for many years. This was probably stimulated in the 1920s by the failure of two digesters within a period of six years.

As a preliminary step to our present study of this problem, the literature on sulphate digester corrosion through 1949 was reviewed by Collins *(15)*. As is the case with many of these problems that we have not considered before, we found a great deal of worthwhile information regarding the subject even though some of it is contradictory and the suggested remedies impractical in several cases. Recently, Teeple *(61)* has discussed the use of corrosion-resistant alloys throughout the sulphate pulp mill and has reviewed the literature in connection with all points of interest, among them the digesters.

* Thilmany Pulp & Paper Co., Kaukauna, Wis.

Many of the engineers with whom we have discussed this matter have used a rule of thumb that may or may not state the case. The general statement is that the modern steel digesters of arc welded construction do not last as long as the old hammer-welded Pintsch digesters. That appears to be true because most of the old vessels were used for many years. For example, it is said that the mill at Moss, Norway, is only now abandoning digesters in which kraft pulp has been cooked since about 1885. If our modern digesters could match this record for service time, we would have no cause to complain about digester corrosion.

Some compensating factors should be allowed for our digesters that are corroding more rapidly than our older installations did. For example, in the use of tumbling digesters, the larger, modern vessels are subjected to more mechanical stress. Other factors we should consider are that today we are cooking more pulp with a shorter cycle, with stronger liquor and usually at higher sulphidities. To be realistic, digester life therefore should be considered both in the light of the pulp tonnage produced and the initial wall thickness of the vessel. Then too, the cooking of fir, cedar, and some hardwoods is said to accelerate corrosion. Any of these factors and others, if overlooked, may result in a distorted picture of the problem.

Leaving all extenuating circumstances aside, the cold, scientific fact remains that many of the mills suffer a recognizable and alarming digester corrosion and will soon be faced with purchase of new vessels or operation at reduced pressures. What is needed is a knowledge of procedures which will slow the rate of corrosion of present vessels and information that will enable us to purchase vessels for the future with the most economical and efficient lining if lining is the answer. We must admit that our primary interest has been in preventing further deterioration of existing digesters.

From the literature, one gets a considerable number of "causes" and "cures" for digester corrosion. Perhaps the cooperative effort in this field now being exerted by many of the pulp mills, insurance underwriters, research institutes, and fabricators of digesters together with suppliers of steel and linings may prolong the life of many "patients." It is of interest to list diagnoses as well as the many recommended nostroms although we cannot vouch for their efficacy.

(1) Formation of protective scale in the digester: Most mills find that sec-

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tions of the digester in which a permanent scale is formed suffer little or no deterioration in the covered areas. Analysis has shown much of this scale to be calcium carbonate and in the mills which have no appreciable corrosion, this scale is said to contain considerable silicon dioxide. Since there seems to be correlation in some mills with the beginning of digester corrosion and the installation of the modern type of recovery unit, the lowered silica content of the liquor due to the new units has been held to be a contributing factor. To supply this deficiency, some of the mills are investigating the addition of sodium silicate to the digester. Some investigators have given the same explanation with regard to the sodium sulfate content of the liquor since the new recovery units have resulted in a higher reduction. To date, apparently no one has suggested that the use of reburned lime, as compared with new lime, may also bring more silica into the liquor system. According to past reports from operators, there may also result scaling of evaporator tubes as a result of increasing the silica or salt cake content of the liquor so this program should be approached with caution.

Formation of the scale in digesters has been said to be aided by coating areas with sprayed stainless steel or installing some stainless steel plates. The galvanic action set up between the carbon steel and the stainless areas is said to cause deposition of silica on the carbon steel. This theory should be compared with one propounded earlier that holds that galvanic action, and hence corrosion, are reduced at the base of the pores in the sprayed metal while the exposed carbon steel plate continues to suffer attack.

(2) Preventing rusting of digesters during shutdowns: Since it has been found that leaving a digester full of chips for several days causes rusting, one mill has suggested leaving them empty during shutdowns.

(3) Inhibitors: Tannin and lignin compounds have been suggested for reducing the attack on the steel during the initial part of the cooking cycle. Actually, white liquor dilution with black liquor may give this same effect.

(4) Amalgamating the surface of the digester with mercury.

(5) Coating digester every 5 to 10 cooks with milk of lime to create a scale.

(6) Reducing the white liquor sulfidity and eliminating the addition of sulfur to digesters or white liquor.

(7) Painting inside the digester with zinc oxide and linseed oil.

(8) Insulating digesters to reduce the thermal shock of heating and cooling each cycle. This is said to reduce loosening of the scale.

(9) Reduction in possibilities for air to mix with white liquor.

(10) Reducing flow rate of liquor in digester when possible.

(11) Reduction in rotation speed of tumbling digesters.

In addition to taking these various precautions in operation and maintenance, several items are said to be important in the purchase of a new vessel.

A. Carbon content of the steel—High carbon steel is said to be undesirable so in many instances a low carbon content is being specified.

B. Silicon content of the steel—One series of investigations reviewed in an earlier summary showed that steel from an old Pintsch digester had a very low silicon content. When tested under identical conditions with plate of higher silicon content from a modern digester, the Pintsch plate was found to have a much lower corrosion rate. In contrast with this, a recent paper by Sawyer, Holzer and McGlothlin *(53)* states high silicon steel is more corrosion resistant than boiler plate to kraft cooking liquors.

C. Linings—

(a) Carbon brick: This type of lining is said to be quite successful but lowers the effective volume of the vessel. In addition, it might not be desirable for use in tumbling digesters due to the effect of mechanical stress.

(b) Ceramic lining: Low silica content firebrick have apparently been tried but this has not found wide acceptance.

(c) Sprayed metal linings: Complete coatings of sprayed stainless steel are said to be effective in some digesters used in a semi-chemical process.

(d) Alloy linings: A number of vessels lined by the fabricators have been in service for several years. Some of these vessels have been reported as being lined with 405 or 410 (13% Cr) stainless steel which is resistance welded to the carbon steel shell. Others are listed as being lined with Type 317 Cr-Ni-Mo or Type 347 stainless steel sheets spot welded to formed steel plate. Regular 18-8 plate has been used in digester cones. Although we have no test data and have made no inspections to verify this, rumors have circulated to the effect that some of the alloy linings we have mentioned are beginning to fail. The story is that the 405 and 410 stainless steel just does not have sufficient corrosion resistance to the alkaline liquor whereas the other types in use are showing caustic embrittlement and stress cracking. In any event, it may be several years before the complete history of these experiments is available. The use of clad plate for fabrication of the digester may eliminate the troubles from this source. In any event, until more service data is available, the carbon steel backing plate for an alloy-lined digester should have considerable corrosion allowance just in case the lining fails. Recently, there appears to be considerable activity toward installation of alloy clad digesters and this may be one of the final solutions to the problem when new vessels must be purchased.

D. Use of extra thick digester walls—Some mills have concluded that the most economical solution to the digester corrosion problem in the light of present knowledge is to buy carbon steel digesters with shells containing an extra amount of steel for corrosion allowance. This is certainly sensible if one must purchase new vessels at this time, since within a few years the success of field lining of digesters will have been proved or disproved.

In addition to the material covered by the literature, our files show other information that may be of interest in this connection.

E. W. Kieth of Penobscot Chemical Fibre Company of Great Works, Maine, has reported tests in which a current of 85 to 100 microamperes could be measured in a line between a digester and a railroad track. A perfect ground was created by connecting the digester at several points to a cable connected to an old water wheel flume.

Of interest in connection with the effect of increased production rate on digester corrosion is some data supplied a number of years ago by R. Nugent of Nekoosa-Edwards Paper Co. They had checked their corrosion rate on hammer welded digesters before and after an accelerated production period.

	Nekoosa—Digesters—Corrosion Rate (Inches/Year)		
	45 Tons/day Rate	60 Tons/day Rate	45 Tons/day Rate
Shell	0.0125	0.0313	0.0134
Cone	0.0187	0.073	0.0224

L. W. Heard of National Container Corp. of Ontonagon, Michigan, advised us that in 1941 they lined five badly deteriorated digesters with 16 gage stainless steel, one with type 304 and the others with type 316. Heads and bottoms were lined with orange peel segments with butted, welded joints and plug welds on four inch centers. The sheets for the shell were 4 by 8 feet and were passed into the digester through a slit cut in the side. Horizontal joints were lapped so that welding was downhand. Although these linings extended the life of the digesters until 1945, some of the plug welds loosened and the lining cracked in a number of places. The cracking was attributed to a rough base surface which prevented the sheets from fitting tightly against the wall of the digester. After four years of service, according to Mr. Heard, there was no sign of wear or corrosion on the sheets and only the cracks and broken plug welds had appeared as failures.

Another excellent example of how individual mills sometimes attack these problems on their own initiative is that of the Australian Paper Manufacturers, Ltd. J. G. Wilson of that concern has been most cooperative in

outlining their work on repairing and lining of sulfate digesters. This work is soon to be described by the publication of technical papers which were given by S. C. Johnson and W. White at the fourth General Conference of the Australian Pulp and Paper Industry Technical Association in March, 1950. These gentlemen deserve considerable credit for their pioneering work in the lining of digesters with mild steel plates and strips of stainless steel.

It is our belief that there is a considerable amount of information regarding digester corrosion available from most of the mills. It is obvious that the collection and correlation of this information together with the undertaking of an extensive research program can best be coordinated in the U. S. by the TAPPI Digester Corrosion Committee with the cooperation of the mills and fabricators. Since it may be some time before the results of a general study will become known, we offer our experiences in this field in the hope that others may avoid our mistakes and benefit from any new contributions we can make.

Over the years, engineers at Thilmany, together with inspectors for the insurers of our vessels, have been following the course of digester deterioration. Extensive records of corrosion and repairs have been kept. Digester wall thickness has mostly been measured directly by drilling holes but other methods have been used. The depth of corrosion in given areas has been measured from ¼ inch thick pads of stainless steel welded to the inside of the shell. An assumption is made that the surface of the stainless pad does not change relative to the outside of the digester shell. A small level is laid across the pad and depth readings are taken at various points on a circle made by the end of the level when the level at its center is rotated on the pad. This method is simple and quick for measuring deterioration in fixed areas but has the drawback that undercutting of the weld and localized corrosion results immediately adjacent to the pad. Inspectors from our insurance company have made readings with the Brady "Electronic Caliper" *(9)*.

Within the last year or so there has been considerable publicity *(5, 11, 12, 16, 19, 36)* given to the use of the Branson "Audigage" Thickness Tester for determining sulphate digester wall thickness. This device utilizes the ultrasonic resonance principle to measure the shell thickness and allows a thorough exploration of digester walls within a relatively short time. Although we have had no experience with this equipment, it appears a logical instrument for this purpose. It has been widely used in other industries before adoption by the paper industry for checking digesters.

Of possible interest in connection with measuring the thickness of some types of non-magnetic alloy linings is the General Electric thickness gage *(25)*.

A summary of much of our information on digester life, costs, etc., is given in *Table I*. Such information is necessary if one is to get a true perspective of the situation. To be realistic, we should include repair costs over the life of a digester and try to tie the cost of the digester and repairs to some index for the purchasing power of the dollar. When the pulp tonnage varies from year to year, as it has done here, corrosion rate should be based on production rather than inches per year. The initial thickness of the digester wall should also be considered in conjunction with the years of service per digester. The need for these qualifications is apparent when one studies *Table I*.

Within the last few years, our interest in digester corrosion has been stimulated particularly by the factor of localized corrosion in some plates in our 3C and 4C digesters. In the summer of *1948* the supplier of these digesters found it necessary to chip out the seams of these vessels and to reweld them. Insurance company inspectors have estimated that the use of 1C, 2C, 3C and 4C digesters at present pressures is only 3 or 4 years more at the best, which means that localized action in certain plate areas will have shortened the life of 3C and 4C to only a little over a half that of the other two existing vessels.

(To be continued next week)

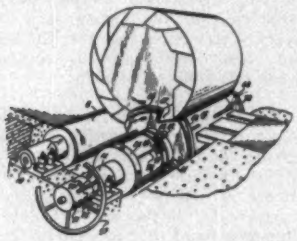
TABLE I DATA ON THILMANY DIGESTERS (Tumbling Type)

Digester No.	1 A & 2 A	3 A & 4 A	1 B & 2 B	3 B & 4 B	1 C & 2 C	3 C & 4 C
Made in	Germany	United States	Germany	United States	United States	United States
Period of Service	1912-1923	1921-1927	1925-1937	1927-1945	1937-19?	1945-19?
Weight (each)	45,900	45,780	45,884	80,000	76,000	76,306
Cost (each)	$4,480	$15,320	$10,984	$16,886	$ 8,612	$14,400
Cost Installed (each)	$5,760	$16,350	$13,686	$21,470	$11,483	$18,411
Cost per Pound (each)	$ .124	$ .358	$ .298	$ .269	$ .151	$ .241
Capacity Cu. Ft. (each)	1600	1575	1575	1927	1933	1954
Total Through 1950—Average Production Tons Pulp (each)	75,000	39,000	73,000	140,000	143,000+	63,000+
Cost per Ton	$0.076	$0.42	$0.187	$0.154	$0.080—	$0.292—
Type of Steel Used	.....	.....	.....	.....	Firebox Quality ASME Code	Firebox Quality ASTM A-70
Steel Analysis (%) C	.....	0.14-0.18	0.10	0.2-0.3	0.13-0.30	0.32-0.38
Mn	.....	0.4 -0.6	0.35	0.4-0.7	0.47-0.56	0.38-0.50
S	.....	0.03-0.04	0.02	Not over 0.4	0.028-0.050	0.014-0.022
P	.....	0.012-0.026	.....	Not over 0.4	0.007-0.014	0.009-0.017
Si	.....	.....	0.04	.....	.....	.....
Average Corrosion Rate Limits (inches per year) Cone	.....	.....	0.023-0.031	.....	0.023-0.028	0.01-0.06
Shell—Cone End	.....	.....	.....	0.034-0.039	0.026-0.051	0.04-0.07
Shell—Trunnion	.....	.....	0.046-0.052	0.033	0.027-0.055	0.03-0.09
Shell—Head End	.....	.....	.....	0.037	0.009-0.060	0.05-0.13
Head	.....	.....	0.031	0.030-0.047	Scaled	Scaled
Shell (?)	.....	.....	0.038	.....	.....	.....
Average Annual Pulp Production Each Digester During Its Service (tons/year)	5,500	6,900	6,200	7,570	10,340	11,750
Initial Digester Thickness (inches) Shell	1.10	1.12	1.10	1.38	1.50	1.50
Cone	0.99	1.12	0.99	1.50	1.75	1.75
Head	1.10	1.12	1.10	1.50	1.50	1.62
Center Shell	1.34	1.12	1.34	2.00	2.00	2.00

Patent Abstracts

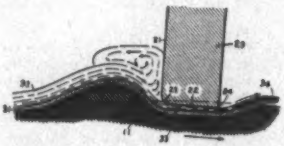
● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information are included.***

U.S. 2,533,993 — Roll Crimping Machine. Harry Christopher Bryans, Three Rivers, Quebec, Canada, assignor to Canadian International Paper Company, Montreal, Quebec, Canada. Filed November 8, 1949 — Issued December 12, 1950.



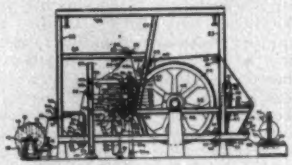
A machine for crimping the projecting ends of wrapping material over the ends of a roll of paper covered thereby comprising a pair of carrier rolls for supporting a wrapped roll of paper, means for positively driving said rolls in the same direction, one of said rolls being provided with spaced sets of radially-extending crimping elements movably mounted thereon, and means for positively adjusting the spacing between said sets of crimping elements.

U.S. 2,534,320—Apparatus for Coating Paper. William Palmer Taylor, Hamilton, Ohio, assignor to The Champion Paper and Fibre Company, Hamilton, Ohio. Filed May 16, 1946 — Issued December 19, 1950.



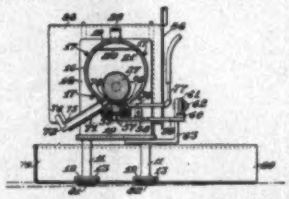
A device for applying fluid coating compositions to paper webs, which comprises: a rotatably mounted roll which is provided with a yielding resilient rubber covering having a density between 60 and 150, as measured on the Pusey and Jones Plastometer with a ¼ inch ball, for carrying a freshly coated web of paper past a location where the coating on the paper is subjected to a doctoring operation; means for rotating said roll in a predetermined direction; a doctor blade in the form of a flat, laterally substantially inflexible prismatic bar having one broad lateral face 21, the plane of which forms an angle of from 45 to 135 degrees with the surface of said roll, and an adjacent narrow lateral face 22, which is nearest said roll, is substantially planar, is between ¼ inch and ½ inch in width, and continuously converges at a nearly constant angle towards the surface of said roll, in the direction of its rotation, and terminates in a substantially sharp edge 24, where it forms with the surface of said roll an angle A of from zero to ten degrees, when the two are in pressureless contact, the edge 23 between said broad face 21 and said narrow face 22, being slightly rounded; a support for holding said doctor blade in position adjacent the surface of said roll, said support being adapted to permit movement of said doctor blade toward and away from said roll; and pressing means associated with said support for holding said doctor blade in a position to cause indentation of the rubber covering of said roll.

U.S. 2,534,848 — Process for Coating Paper. William H. Barrett, International Falls, Minn., and Bernard K. Asdell, Metuchen, N. J., assignors to Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed October 28, 1944 — Issued December 19, 1950.



A process of coating one side of a moving web of paper having a moisture content of less than about 10% with two smooth films of mineral adhesive coating composition having a solid contents in excess of 60% comprising heating a moving web of paper prior to the application of coating composition thereto, applying an excess of coating composition to a second rotatable applying surface, removing a portion of the coating so applied and smoothing the remainder to a smooth film on the second applying surface, applying the removed portion of the coating composition to a first rotatable applying surface and smoothing the coating to a smooth film, transferring the smooth film of coating on the first rotatable applying surface to the heated moving web of paper, and then applying the smooth film on the second rotatable applying surface over the film applied to the moving web of paper while the film of coating material applied to the paper is still wet.

U.S. 2,535,302 — Disintegrator of Laboratory Test Size for Wet Disintegration of Cellulosic Pulp Samples. Robert M. Levy and Ward D. Harrison, Brevard, N.C., assignors to Ecusta Paper Corporation. Filed May 3, 1944 — Issued December 26, 1950.

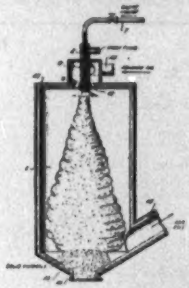


A disintegrator of laboratory test size adapted for wet disintegration of cellulose pulp samples for disperse viscosity determinations, comprising a cylindrical chamber for containing said wet pulp samples, a grooved rotor member disposed for rotation in said chamber in peripherally-opposed relation to an internal wall portion of said chamber, said chamber being formed with a recess at said wall portion and said recess having a lateral opening, a grooved block removably positioned in said recess in opposed relation to said rotor member, said grooved block being transversely removable from said recess through said lateral opening without disturbing said rotor member, a resilient diaphragm closing the bottom of said recess and supporting said grooved block, and a weighting means bearing externally on said diaphragm for biasing said grooved block against said rotor member under a predetermined constant pressure.

U.S. 2,535,422—Board Bundle. William R. Jones, Metuchen, N. J., assignor to The Celotex Corporation, Chicago, Ill. Filed March 1, 1947 — Issued December 26, 1950.

A package of rectangular substantially flat sheets of building material of greater length than width comprising in combination, a plurality of such sheets each comprising a fiberboard core having an adhered surfacing of grit on one face and an asphaltic coating on the opposite face and in pairs with the gritted faces together substantially superposed and forming a stack, a rectangular sheet form fibrous wrapper folded about the stack of sheets and substantially enclosing opposite faces and two opposite long edges of the stack and securing means positioned along the contiguous edges of the wrapper and securing the wrappers to the outer face of a surface sheet of the stack together with securing means securing the wrapper to the outer surface of the other surface sheet of the stack.

U.S. 2,535,730 — Process for the Treatment of Waste Liquors Derived from Cellulose Manufacture. René H. Gadret, Mimizan-Bel Air, France, assignor of one-half to Papeteries de Gascogne (Societe Anonyme), Mimizan, France. Filed September 28, 1948 — Issued December 26, 1950.



In a process for the recovery of normally solid inorganic components from aqueous waste liquors containing combustible components such as black liquor and distillery molasses, the steps of releasing a swirling suspension of very fine particles of said liquor in a vertical, unobstructed, confined zone where a temperature of the range of about 280° C. to about 500° C. prevails, from a point adjacent the top of said zone; supplying pressure air to said zone solely at the top thereof, in an amount insufficient to support complete combustion of said combustible components of said liquor, so as to bring about a partial combustion of said components to maintain said temperature within said range with consequent production of steam and gaseous products and release of solid chemicals from said liquor as said suspension progresses downwardly through said zone, said air being supplied in close proximity to the point of release of said suspension; removing said steam and gaseous products from said zone; and withdrawing said solid inorganic components from the bottom of said zone.

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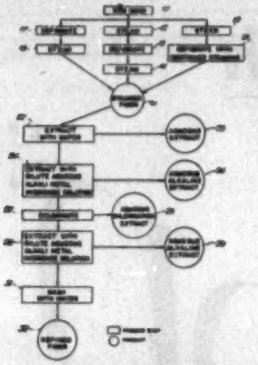
Can. 469,639 — Cellulosic Fibres and Processes for Their Production. Clark C. Heritage, Cloquet, Minnesota, U.S.A. Filed May 19, 1947 — Issued November 28, 1950.



A process for the production of cellulosic fibre of improved paper making qualities which comprises mechanically defibrating wood, subjecting the ultimate fibre to the action of steam at pressures of between about 100 pounds per square inch and about 175 pounds per square inch for times of from about eleven minutes to about one minute, the steaming duration being inversely co-ordinated with the steam pressure employed, subjecting the resulting steamed fibre to the action of a dilute aqueous solution of an alkali metal hydroxide in concentration equivalent to that of a 0.1% to a 3.75% by weight solution of sodium hydroxide, said solution being used in an amount sufficient to furnish the equivalent of from about one part to about 25 parts by weight hydroxide per 100 parts by weight fibre chlorinating the alkali extracted fibre, and extracting the fibre with a dilute aqueous solution of an alkali hydroxide.

A process for the production in high yields of a cellulosic fibre of improved paper making properties which comprises subjecting wood in subdivided form to the action of steam, mechanically defibrating the steamed wood with continued steaming under conditions such that the wood is subjected to an over-all steaming period of from about one minute to about 11 minutes at pressures of from about 100 pounds per square inch to about 175 pounds per square inch, the duration of treatment being inversely co-ordinated to the steam pressure, subjecting the resulting steamed ultimate fibre to the action of an aqueous solution of an alkali metal hydroxide in concentration equivalent to that of a solution of sodium hydroxide containing from about 0.1% to about 3.75% by weight of that reagent, said solution being used in an amount sufficient to furnish a weight of alkali metal hydroxide equivalent to from about 1 part to about 25 parts by weight sodium hydroxide per 100 parts by weight fibre, chlorinating the resulting alkali metal hydroxide extracted fibre, and extracting the chlorinated fibre with a further quantity of a dilute aqueous solution of an alkali metal hydroxide employing substantially the same range of conditions of usage and concentration as employed in the alkali metal hydroxide treatment of the steamed fibre.

A process for the selective fractionation of wood substance with minimal change in composition at each treating step for producing both a cellulosic fibre of high quality paper making grade and useful chemical by-products in relatively undegraded form which comprises providing wood which has been reduced mechanically substantially completely to the form of ultimate fibres and in which naturally occurring water insoluble substance has been converted by steaming to water soluble substance in an amount not greater than about four to six per cent, subjecting said fibres to the action of an aqueous solution containing sodium hydroxide in a range from 0.1 per cent to about 1.0 per cent by weight at about the boiling temperature of said solution and for a time period of between about one-half and about two hours, said solution being used in amount sufficient to supply from about 1 part by weight to about 25 parts by weight sodium hydroxide for each 100 parts by weight fibre, the concentration and usage of said alkali metal hydroxide solution being such as to provide a consistency of not more than 15 parts fibre per 100 parts solution, subjecting the sodium hydroxide extracted fibre to the action of chlorine in an amount substantially sufficient to provide only a slight excess for reaction with the lignin content of the mass treated, and extracting the chlorinated fibre with a further quantity of an aqueous solution of an alkali metal hydroxide employing substantially the same range of usage and concentration as employed in the first alkali metal hydroxide treatment.

Can. 469,889 — Impregnated Paper. Thomas H. Vaughan and Elmer J. Cutting, Hampton, South Carolina, U.S.A., assignors to Plywoods-Plastics Corporation, Hampton, South Carolina, U.S.A. Filed April 9, 1947 — Issued December 5, 1950.

Impregnated sheet material adapted to serve as an adhesive film in thermo-setting bonding processes comprising a porous paper impregnated with a phenol formaldehyde resin in which the amount of phenol exceeds the amount of formaldehyde, and having a second phenol formaldehyde resin in which the amount of phenol is less than the amount of formaldehyde applied to said impregnated paper each resin being in a dry, potentially reactive state, each resin being thermosettable to a final infusible state.

Adhesive paper for laminated products comprising porous paper impregnated with from 30 to 60 per cent by weight of a phenol formaldehyde resin having a dominant phenol content as obtained by mixing from 400 to 600 lb. of phenol with 200 to 400 lb. of 37 per cent USP formaldehyde, and a secondly applied resin having a dominant formaldehyde content obtained by mixing from 300 to 500 lb. of phenol with 900 to 1,200 lb. of formaldehyde, each resin being in a dry, potentially reactive state, and the resulting sheet containing from 50 per cent to 90 per cent by weight of resin.

Can. 469,943—Methods and Devices for Sieving Fibrous Suspensions. Alef Ruben Persson and Karl Johan Karlström, Hedemora, Sweden. Filed September 19, 1947 — Issued December 12, 1950. (Sec. 28A — Expires December 11. 1966.)

A method for separating oversized particles from a fibrous suspension characterized in causing said suspension to flow out over a false bottom having apertures letting through the fibres and liquid but retaining the oversized particles, adding suspending liquid to said suspension substantially uniformly along said false bottom in the form of a plurality of streams, and so limiting the width and velocity of each stream as to prevent said stream from penetrating said suspension sufficiently to impinge against said false bottom.

In a method for screening a fibre suspension through a false bottom, the steps of flowing said suspension in a layer over said false bottom, supplying suspending liquid from above in the form of a plurality of streams, and so limiting the cross section and the velocity of each stream and the distances between the individual streams in relation to the height of the layer of said suspension that the pressure exerted on said false bottom by the influence of said streams is less than about 0.1 kilogram per sq. centimetre.

Can. 469,990 — Recovery of Bitumen and Fibres from Bituminized Paper and Like Products. Joseph Wertheim, St. Kilda, Victoria, Australia, and Donald Ian Donaldson, Sandringham, Victoria, Australia, assignors to Australian Paper Manufactures Limited, Princes Bridge, Victoria, Australia. Filed October 25, 1947 — Issued December 12, 1950.

A process for the separate recovery of bitumen and fibres from bituminized paper, board and the like comprising the steps of treating a disintegrated stock of the bituminized paper with kerosene in the form of an emulsion under controlled conditions of temperature and consistency, whereby the kerosene particles, having a density less than that of water, rise to the surface in the treatment vessel and removing the bitumen kerosene solution by overflow, leaving the bitumen-free fibres in the vessel for separate recovery.

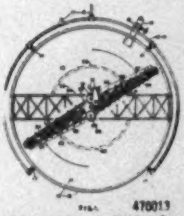
A process according to claim 1 characterized by controlling the pH value of the stock during the treatment with the emulsion at 10 during the treatment.

A process according to claim 1 characterized by the step of agitating the stock while it is being treated with the emulsion.

A process according to claim 1 and further characterized by an initial treatment comprising the disintegration of the bituminized paper or like product in a beater at a temperature sufficient to render the bitumen plastic, then screening the stock to remove some of the bitumen with some of the fibres, the screened stock being subsequently freed from the remaining bitumen by treatment with an emulsified bitumen solvent as aforesaid.

Can. 470,013—Slurry Mixers. Harold Boyd Coulter, Chatsworth Gardens, New York, U.S.A., assignor to The Dorr Company, New York, New York, U.S.A. Filed June 22, 1948 — Issued December 12, 1950.

Apparatus of the class described, comprising in combination a slurry mixing and holding tank having a relatively flat bottom with marginal wall rising therefrom, a draw-off conduit leading from the lower interior portion thereof, and equipped with motivated sediment-raking and impelling mechanism operable over and progressively along diverse sections of the floor of the tank, said apparatus being characterized in that the motivated sediment-raking and impelling mechanism includes outwardly-extending rake-carrying arms turnable about a vertically-extending axis and of which (1) each rake-carrying arm is equipped with downwardly-extending bladed elements arranged in sets including (a) an inlying set on the inner portion of its arm of which the bladed elements extend rearwardly and outwardly and function to impel sediment engaged thereby progressively forwardly and outwardly towards and into an annular medial band section on and above the floor of the tank, and (b) an outlying set on the outer portion of the arm of which the bladed elements extend forwardly and outwardly and function to impel sediment engaged thereby forwardly and inwardly towards



470013

and into said annular medial-band section, (2) each rake-carrying arm has a vertically-extending lift pipe carried thereby and rising from the general region where the outer end portion of the inlying set and the inner end portion of the outlying set of raking blades approach each other, and (3) each rake-carrying arm has movable therewith an air supply pipe connected for receiving pressure air received thereinto and for delivering air therefrom into the interior of the corresponding lift pipe.

PRICES

The prices below reflect market quotations in New York at the mill level on standard grades. Most orders accepted, however, at price prevailing on date of shipment. Does not include spot offerings.

PAPER AND BOARD

Standard News, Delivered Ports

Rolls, contract, per ton	$105.00/110.00
Sheets	110.00/ —

F.o.b. Mills, C.l. Frt. allowed, dock, N. Y.

Kraft— pr cwt., 40# base wgt.

Standard Wrapping Rolls	$7.75/ —
No. 1 Wrapping Rolls	8.25/ 8.50
Standard Bag	7.50/ —

Tissues— per ream 24x36 (480) 10 lbs. 2500 lbs or more

Wh. No. 1 Prd.	$1.85 /$2.50
Wh. No. 1 MG	1.85 / —
Wh. No. 1½	1.75 / —
Wh. No. 2	1.65 / —
Kraft Non-Tar	1.70 / —
White Non-Tar	

Toilet—per case of 100 rolls—1 M sheets

Unbleached 4½x4½	$8.00/$8.25
Unbleached 4½x5	‡ 6.60/ —
Bleached 4½x4½	7.10/ 8.80
Bleached 4½x5	‡ 9.85/ —
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	$8.00/$8.25
Bleached 4½x4½	6.95/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½x5, 2-ply	‡ $8.95/10.65

Paper Towels—per case of 3730

Wh. Jr. M'tif'd 9½x9½	$5.65
Br. Sr. M'tif'd 10x12	4.00
Br. Jr. M'tif'd 9½x9½	3.50
Br. Jr. Sat. fold 10x10½	3.35
Bldd. 7½x11, 24/25 rolls	‡ $6.00/7.55

Manila, per cwt.

No. 1 Jute Tag, 100-lb., sheets*	‡ $19.55/21.55
Reg. Jute M.F. 40-lb., sheets*	‡ 18.00/20.00
Wrapping Manila	8.75/ 10.50
Printing Manila	10.50/12.00

* Less usual allowance for rolls.

WORLD WOOD PULP MARKETS

First Quarter Contract Prices, Per Short Air-Dry Ton

Varying freight allowances — Atlantic Ports

	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$85.00/100.00	$85.00/100.00			
Sulphate, Bleached	135.00/200.00	175.00/ —	*180.00/187.00†		Competitive
Sulphate, Unbl. Northn.		147.50/155.00	*153.00/185.00*		
Sulphate, Unbl. Southn.					
Sulphite, Bldd. (Sftwd.)	135.00/165.00	145.00/ —	*175.00/ —	Competitive	Competitive
Sulfite, Bldd. (Hdwd.)	150.00/175.00				
Sulphite, Unbldd.	132.50/150.00	132.50/150.00	*133.00/165.00		
Sulphite, Unbl'd (Glassine)		143.00/146.50	*157.00/ —		
Soda, Bldd.	140.00/142.50	140.00/142.50			
Siderums, Pulping News	106.00/ —	106.00/ —			

* On dock. † Delivered.

Gummed Tapes—per bdl., 300 bdls. or more

90-lb. 375 ft. GSI	$6.90 / —
60-lb. 600 ft. GSI	6.90 / —
35-lb. 800 ft. GSI	7.93½/ —
35-lb. 300 ft. GSO	5.98 / —

Boards, per ton—

Filled News	‡ $107.50/ —
Plain Chip	105.00/107.50
Bldd. Mls. L-d. Chip	‡ 147.50/ —
White Pat. coated .020	‡ 170.00/ —
Kraft Liners 42 lb.	115.00/117.50
Kraft Corr. .009	122.50/126.00
Binders Boards	137.50/140.00

The following prices are representative distributors' resale prices.

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	‡ $70.45/ 72.10
100% Rag	62.45/ —
75% Rag	48.15/ —
50% Rag	38.90/ —
25% Rag	‡ 31.65/ 33.00

Ledgers	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	$72.65/ —
100% Rag	63.90/ —
75% Rag	49.40/ —
50% Rag	40.20/ —
25% Rag	33.80/ —

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds	4 Ctns.
	per cwt.
Watermarked	‡ $19.00/$20.50
Plain	‡ 18.05/ 19.50

Ledgers	4 Ctns.
	per cwt.
Watermarked	‡ 20.30/$21.80
Plain	‡ 19.35/ 20.80

White Book

Conversion Coated	Case
	per cwt.
No. 1	$23.40/$24.65
No. 2	21.90/ 23.40
No. 3	‡ 20.40/ 22.40
Machine Coated	
No. 1	‡ $18.15/$18.40
No. 2	‡ 16.15/ 16.65
Uncoated	
No. 1 Antique (Watermarked)	‡ $18.65/$19.15
Offset	‡ 17.40/ 19.90
A Grade E. F.	17.40/ 18.15
A Grade S. C.	18.15/ 18.65
B Grade E. F.	17.65/ —
B Grade S. C.	‡ 16.90/ 18.40

‡ Indicates a price change.

WASTE PAPER MARKET

The following quotations were gathered from major dealers in each market. They are an indication of the price range in which volume tonnage was moving on the date specified. Prices to mills, per ton, f.o.b. cars shipping point (includes brokers' fee.) ALL PRICES NOMINAL. SPOT OFFERINGS OR SPECIAL PACKINGS NOT INCLUDED.

	New York Jan. 25	Philadelphia Jan. 16	Boston Jan. 6	Chicago Jan.4
No. 1 Mixed Paper	$32.00/ 33.00	$32.00/ 35.00	$29.00/ —	$33.00/ —
Boxboard Cuts	30.00/ 33.00	30.00/ 33.00	26.00/ —	38.00/ —
Mill Wrappers	30.00/ 35.00	30.00/ 35.00	30.00/ 35.00	35.00/ —
No. 1 News	37.00/ 41.00	33.00/ 40.00	33.00/ 35.00	38.00/ —
Over-issue News	40.00/ 45.00	40.00/ —	33.00/ 43.00	41.00/ —
Corrugated Containers	64.00/ 69.00	55.00/ 62.00	49.00/ 65.00	52.00/ —
New Corrugated Cuts	74.00/ 80.00	55.00/ 60.00	55.00/ 65.00	62.00/ —
Double Kraft Ld. Corr. Cuts	115.00/120.00	105.00/110.00	120.00/130.00	120.00/ —
100% Kraft Corr. Cuts	140.00/165.00	125.00/135.00	130.00/150.00	135.00/ —
Used Kraft Bags	85.00/ 95.00	80.00/ 85.00	85.00/ 95.00	65.00/ —
No. 1 Brown Kraft Paper	90.00/ 95.00	90.00/ 95.00	90.00/110.00	65.00/ —
Super Resorted Br. Kraft	100.00/105.00	100.00/105.00	100.00/125.00	90.00/ —
New Br. Kraft Env. Cuts	160.00/190.00	160.00/175.00	160.00/180.00	130.00/ —
New Br. Kraft Cuts	150.00/170.00	130.00/135.00	150.00/180.00	140.00/ —
No. 1 Gdwd Shvs.	80.00/ 85.00	75.00/ 80.00	80.00/ 85.00	75.00/ —
White Newsblanks	115.00/125.00	110.00/115.00	110.00/120.00	115.00/ —
No. 1 Flyleaf Shvs.	80.00/ 85.00	90.00/ 95.00	95.00/105.00	110.00/ —
No. 1 Soft Wht. Shvs.	180.00/190.00	170.00/175.00	175.00/195.00	175.00/ —
Super Soft Wht. Shvs.	190.00/200.00	190.00/200.00	190.00/200.00	185.00/ —
Hd. Wht. Shvs.	185.00/205.00	200.00/215.00	190.00/215.00	180.00/ —
Hd. Wht. Env. Cuts	200.00/245.00	225.00/ —	200.00/235.00	190 00/ —
New Manila Env. Cuts	140.00/150.00	160.00/165.00	140.00/165.00	115.00/ —
Col. Tab Cards	110.00/120.00	115.00/120.00	95.00/135.00	100.00/ —
Manila Tab Cards	170.00/180.00	165.00/175.00	160.00/200.00	165.00/ —
No. 1 Mixed Ledger	100.00/105.00	100.00/105.00	90.00/105.00	100.00/ —
White Ledger	130.00/140.00	125.00/130.00	125.00/140.00	125.00/ —
No. 1 Book & Mag.†	55.00/ 60.00	40.00/ 45.00	40.00/ 60.00	35.00/ —
No. 1 Rep'd. Hvy. Books‡	65.00/ 70.00	50.00/ 60.00	60.00/ 75.00	55.00/ —

* Delivered. † Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% groundwood.

RAG MARKET

New Domestic Cotton Cuttings
(Prices to Dealers, F.o.b. Ship. Pt.)

ALL PRICES NOMINAL

No. 1 White Shirts	$23.00/$24.00
No. 1 Unbldd. Muslins	23.00/ 24.00
Bldd. Canton Flannels	17.00/ 18.00
No. 1 Lt. Silesias	12.00/ 13.00
No. 1 Lt. Prints	9.00/ 12.00
Wht. Bk. Blue Overalls (Bleachable)	15.50/ 16.00
No. 1 Blue Overalls	7.00/ 8.00
Fancy Shirts	6.00/ 6.50
No. 1 Washables	5.50/ 6.00
Suntan Khaki Cuts	11.00/ 12.00
Mixed Khaki Cuts	9.00/ 11.00
Corduroy Cuts	4.75/ 5.25
Cottonades	7.00/ 7.50
Bldd. Underwear Cuts	nominal
Unbldd. Underwear Cuts	nominal

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

ALL PRICES NOMINAL

	Per 100 lbs.
Mixed White	$5.00/$5.50
Cotton Pants & Overalls	4.75/ 5.00
Thirds and Blues, Repacked	3.75/ 4.00
No. 1 Roofing Rags	3.00/ 3.10
No. 2 Roofing Rags	2.40/ 2.50
No. 3 & 4 Roofing Rags	2.20/ 2.30
Roofing Bagging	2.20/ 2.30

New Foreign Cotton Cuttings
(Prices to Mills, F.o.b. Dock, N.Y.)

	Per 100 lbs.
New Dark Cuttings	$4.75/$5.00
New Mixed Cuttings	4.75/ 5.25
Light Silesias	8.00/ 8.50
Light Flannelettes	7.50/ 8.00
New White Cuttings	nominal
New Unbleached Cuttings	nominal
Fancy Shirt Cuttings	6.50/ 7.50

Light Prints	6.50/ 7.50
Bleachable Khaki, No. 1	6.00/ 6.50
Unbl. Khaki, No. 1	5.00/ 5.50

Old Foreign Rags

(Prices to Mills, F.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	nominal
No. 2 White Cottons	nominal
No. 3 White Cottons	nominal
No. 4 White Cottons	nominal
Extra Light Prints	5.50/ 6.00
Old Light Prints	4.50/ 5.00
Med. Light Prints	3.75/ 4.00
Dutch Blue Cottons	4.00/ 4.50
Linsey Garments	2.75/ 3.00
Dark Cottons, European	2.75/ 3.00
Dark Cottons, Egyptian	2.50/ 2.75
Old Shopperies	2.40/ 2.50
New Shopperies	2.50/ 2.75

Bagging

(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$8.00/$8.25
Domestic Gunny, No. 1	7.75/ 8.00
Heavy Wool Tares	7.00/ 7.50
Foreign Manila Rope	7.25/ 7.75
Domestic Manila Rope	7.00/ 7.25
Jute Strings	6.25/ 6.50
No. 1 Sisal Strings	7.25/ 7.50
Mixed Strings	nominal
Paper Mill Tares	5.25/ 5.75
No. 1 Scrap Burlap	
Foreign	6.50/ 6.75
Domestic	7.00/ 7.50
Austr. Wool Pouches	7.50/ 8.50
New Burlap Cuttings	7.50/ 8.00

MATERIALS

Aluminum, sulfate:
comi. bags, wks. ..... cwt. 1.65
iron-free c.l. 3.25

Alcohol, ethyl:
tax free, dnas. c.l. ..... gal. .77 / 1.02
deld. East Miss.

Alcohol, methyl:
Synthetic, Zone 1, dnas.
c.l. fit. alld. ..... gal. .44

Casein, acid-prec.:
dom. sh. pt. c.l. ..... lb. .43 / .45
imp. ex dock ..... lb. .40 / .41

Caustic soda:
c.l. wks. solid, 76%, cwt. 3.35
flak. & grd. 100-lb. drums ... 3.75
liquid 50% tanks 2.55
liquid 70% tanks 2.65

China clay:
dom. air-float. filler, c.l. wks.
ton 10.00
water-washed, lump, filler 11.00
coating ..... 17.60 /30.50
imported, ex whse. ... short ton 15.20 /28.35

Chlorine:
single-unit tanks, works .. cwt. 2.70
multi-unit ..... cwt. 3.20 / 4.40

Formaldehyde:
USP, inh. dnas, c.l. wks. .... lb. .0600/ .0625
l.c.l. E. whs. ..... .0650/ .0675

Fuel oil:
Bunker C, No. 6 Cal. bvy
tanks, refinery ..... bbl. 1.95 / 2.15
light ..... bbl. 2.05 / 2.10

Hydrogen peroxide:
USP, 35% cbys. E. of Miss.
lb. .24½/ .25½

Lime:
hydrated, bags, wks. Buffalo
ton 13.50

Resin:
B gum, drms, c.l. Savan. . cwt. 8.00
G, H, I, K. ..... cwt. 8.79
FF, wood, do. ..... cwt. 7.30

Rosin size:
70%, gum & pale grds, tank
cars, south, sh. pt. .... cwt. 6.80 / 7.00

Salt cake:
dom. bulk, c.l. wks. ..... ton 17.00
wks. frt. all. ..... ton 20.00 /22.00

Soda ash:
light, 58%, bags, wks. 1.50
bulk ..... cwt. 1.20

U. S. IMPORTS WOODPULP

Preliminary, December, 1950

Item	Country of Origin	Short Tons
Mechanical		
Unbichd.	Canada	18,496
	Sweden	1,915
	Finland	1,387
		21,798
Screenings	Canada	294
Bichd.	Canada	6,320
	Sweden*	555
		6,875
Chemical		
Sulfite, Unbichd.	Canada	34,871
	Sweden	6,216
	Norway	718
	France*	1
	Germany	108
	Austria	81
	Switzerland*	176
	Finland	557
		42,728
Screenings	Canada	395
Sulfite, Bichd. Rayon & Special Chem. Grades	Canada	20,899
	Sweden	112
	Norway	519
	Austria	766
		22,296
Other	Canada	22,377
	Sweden	6,057
	Norway	2,418
	Austria	100
	Czechoslovakia	533
	Finland	3,172
		34,657
Sulfate, Unbichd.	Canada	18,234
	Sweden	8,054
	Finland	9,736
		36,021
Sulfate, Bichd.	Canada	26,599
	Sweden	8,720
	Norway	224
	Austria*	17
		35,558
Soda, Unbichd. & Bichd.	Canada	2,614
Totals, December	Canada	151,097
	Sweden	31,629
	Finland	14,852
	Norway	3,879
	France	1
	Germany	108
	Austria	964
	Switzerland	176
	Czechoslovakia	533
		203,239

* To be investigated by Census.

Sodium silicate 40°:
turbid, c.l. wks. ..... cwt. 1.20
l.c.l. wks. ..... 1.55 / 1.95

Sodium peroxide:
dms. c.l. E. of Miss. ..... lb. .19
l.c.l. do. ..... lb. .19½/ .20

Soybean, protein:
chem. isol, wks. c.l. ..... lb. .24 / —
Cinn. and Chic.

Sulfuric acid:
60° Be. cbys. cl. wks. .... cwt. 1.75 / —
l.c.l. wks. ..... cwt. 2.05 / 2.60

Sulfur:
crude, c.l. mines, contract,
long ton 21.00 /22.00
f.o.b vessels Gulf ..... 22.50 /23.50
Export, f.o.b. Gulf 25.00

Sulfur dioxide:
liquid, coml. cyl. wks. ..... lb. .09
multi-unit cars ..... lb. .0535

Starches:
pearl corn, bags, c.l. wks. .. cwt. 5.92 / —
white dextrines, c.l. wks. . cwt. 7.29 / —
potato, Idaho, c.l. wks. .... cwt. 5.50 / —
potato, Maine, c.l. wks. .... cwt. 5.25 / —
tapioca, conv. dextrines . . . cwt. 7.50 / 8.00
medium grds. Gulf and East
Coast ports ..... 6.75 / 7.50
low, Siam, on dock N. Y. .... 5.00 / 5.50
nominal

Talc:
domestic, 50-lb. sacks, c.l.
wks. ..... ton 25.00 /30.00

Titanium dioxide:
anastase, c.l. deld., bags .... lb. .21 / .21½
l.c.l. deld. ..... lb. .22 / .23½
rutile, c.l. deld. ..... lb. .23 / .23½
l.c.l. deld. ..... lb. .24 / .24½

N.B.: For special market conditions, see *Trends*.

IMPORTS

IMPORTS AT NEW YORK

Week Ending Feb. 3

Newsprint

Wall Street Journal, Fort Avalon, Cornerbrook, 135 rolls.
N.Y. World Telegram, Fort Avalon, Cornerbrook, 1379 rolls.
Hearst Enterprises, Inc., Fort Avalon, Cornerbrook, 354 rolls.
N.Y. Tribune, Fort Avalon, Cornerbrook, 724 rolls.
N.Y. Times, Fort Avalon, Cornerbrook, 709 rolls.
Bato Co., Fort Avalon, Cornerbrook, 234 rolls.

Baryta Coated Card

E. de Vries, American Counselor, Antwerp, 108 rolls.

Surface Coated Paper

Acme Litho Plate Grain, Inc., Havorn, Hamburg, 27 cs.
Gevaert Co. of America, Bastogne, Antwerp, 32 cs.

Crepe Paper

Brundage Co., American Counselor, Rotterdam, 27 cs.
Brundage Co., Westerdam, Rotterdam, 27 cs.

Writing Paper

R. Stone, Havorn, Hamburg, 22 cs.

Parchment

Andrews Paper Co., Queen Mary, Southampton, 1 cs.
Meadows Wye & Co., Queen Mary, Southampton, 1 cs.
(———), Havorn, Hamburg, 6 cs. (paper).

Baryta Paper

W. Reinsardes, Black Heron, Bremen, 55 cs.

Sulphite Paper

B. M. Heede, Topdalsfjord, Stavanger, 22 bls.

Wallpaper

S. K. Lonergan, Minnesota, Gefle, 54 cs.
Hudson Shipping Co., Liberte, Havre, 1 cs.
Hudson Shipping Co., Ronda, Rouen, 1 cs.

Cellophane

(———), American Planter, Havre, 46 cs.

Photo Paper

Alco Photo Supply Co., Queen Mary, Southampton, 10 cs. (sensitized).

Gummed Paper

B. F. Drakenfeld & Co., Franconia, Liverpool, 14 cs.

Colored Paper

D. F. Young, Bastogne, Antwerp, 3 cs.

Decalcomanias

E. Gutman, Tulane, Nagoya, 1 cs.

Mills that compare Refiners choose Sprout-Waldron

The MAIZEWOOD Installation

A battery of S/W Refiners and stock conveyors recently installed at the Maizewood Insulation Co., Dubuque, Iowa.

When all the pros and cons are weighed about pulp refiners, your choice will be Sprout-Waldron. Here is a high quality refiner that does more at less cost. A humdinger in any type of pulping, it far outperforms similar equipment in semi-chemical operations.

Its rugged construction, precision engineered, includes the unique peripheral control ring feature. This provides great flexibility of adjustment, enabling you to produce a wide variety of pulp characteristics. **With the Sprout-Waldron you can pinpoint exact pulp requirements.** Long-life plates are available in many styles... are easily changed and inexpensive.

Your initial investment in a S/W Refiner is comparatively low. High production rates, economy in power consumption, ease of operation, adjustment, and maintenance, mean additional savings.

Let a Sprout, Waldron representative explain how these refiners can step up your output and cut operating costs, or ask for Bulletin 41. Address Sprout, Waldron & Co., Inc., 59 Waldron Street, Muncy, Penna.

S/W Refiners do a wide variety of jobs—all of them thoroughly and economically. Here are some applications: refining kraft, soda, and sulphite knotter and fine screen rejects; hogged bull screen rejects; knotter and second screen rejects of raw groundwood; semi-chemical chips of all kinds; spent chips after extraction process; bagasse, straw, and similar grasses; breaking down lumps in reclaimed waste paper stock; reduction and refining of rag and other half stocks, etc., etc.

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Sprout Waldron

Manufacturing Engineers

SINCE 1866

Miscellaneous Paper

A. Doniger Paper Co., Westerdam, Rotterdam, 15 bls.

Rags, Baggings, etc.

A. de Vries Trading Corp., Havorn, Antwerp, 106 bls. scrap bagging.

Castle & Overton, Inc., Havorn, Antwerp, 22 bls. light cuttings.

Irving Trust Co., Havorn, Antwerp, 58 bls. bagging.

Chase National Bank, Havorn, Rotterdam, 44 bls. old bagging.

Dadourian International Corp., Havorn, Hamburg, 715 bls. rags.

(———), Black Heron, Rotterdam, 168 bls. paperstock.

Manufacturers Trust Co., Bristol City, Swansea, 60 bls. jute waste.

(———), Bristol City, Newport Mon, 144 bls. jute waste.

A. de Vries Trading Corp., Ronda, Rouen, 13 bls. rags.

A. W. Fenton Co., Ronda, Rouen, 109 bls. scrap bagging.

(———), Ronda, Rouen, 174 bls. rags.

Midwest Waste Materials Co., Ronda, Rouen, 309 bls. rags, 10 bls. scrap bagging, 24 bls. bagging, 9 bls. old nylon stockings, 3 bls. new cuttings.

E. J. Lang, Ronda, Rouen, 363 bls. scrap bagging.

National Bank of Detroit, Exiria, Venice, 55 bls. scrap bagging.

National City Bank, Maipo, Hamburg, 63 bls. jute bagging.

Riverside Mills, Mormactern, Recife, 56 bls. cotton waste pickers.

M. E. Schoen, Mormactern, Recife, 47 bls. cotton waste pickers, 40 bls. cotton sweeps.

Darmstadt Scott & Courtney, American Flyer, Bordeaux, 119 bls. paperstock.

Chase National Bank, Exermont, Trieste, 160 bls. rags.

1st National Bank of Boston, Exermont, Venice, 40 bls. old bagging.

Old Rope

Bemis Bros. Bag Co., Bristol City, Avonmouth, 44 coils old manila rope.

International Purchasing Co., Bristol City, Newport Mon, 51 coils old rope.

National City Bank, Maipo, Hamburg, 101 coils old rope.

China Clay

English China Clays Sales Co., Bristol City, Avonmouth, 4648 bags.

Glue Stock

Transatlantic Animal By Products Co., Inger Skou, Pto Barrios, 65 bdls.

Karr Ellis Co., Franconia, Liverpool, 211 bags.

Casein

H. Petersen, Havorn, Hamburg, 140 bags.

(———), Black Heron, Rotterdam, 500 bags (lactic).

E. Lang, Brazil, Buenos Aires, 300 bags.

American Cyanamid Co., Brazil, Buenos Aires, 500 bags.

N.Y. Trust Co., Brasil, Buenos Aires, 2000 bags.

The Borden Co. Chemical Division, Brazil, Buenos Aires, 820 bags.

Chase National Bank, Ribeira Grande, Ponta del Gada, 286 bags (lactic).

IMPORTS AT NEWARK

Week Ending Feb. 3

Pulp Sales Co., Hamina, Kotka, 4455 bls. sulphite pulp, 9120 bls. sulphate pulp.

Madden Reeve Angel & Co. Inc., Hamina, Kotka, 279 rolls newsprint.

IMPORTS AT PHILADELPHIA

Week Ending Feb. 3

E. J. Keller Co. Inc., Havorn, Antwerp, 258 bls. rags.

Castle & Overton, Inc., Havorn, Rotterdam, 53 bls. rags.

National City Bank, Black Heron, Rotterdam, 51 bls. rags.

English China Clays Sales Corp., Bristol City, Avonmouth, 4296 bags China clay.

E. J. Lang, Ronda, Rouen, 84 bls. scrap bagging.

E. J. Keller Co. Inc., American Flyer, Bordeaux, 166 bls. old cotton rags.

Castle & Overton, Inc., American Flyer, Bordeaux, 166 bls. old cotton rags.

J. H. Schroeder Banking Corp., Exermont, Trieste, 525 bls. woodpulp.

Elof Hansson, Inc., Exermont, Trieste, 848 bls. unbleached sulphite pulp.

1st National Bank of Boston, Exermont, Venice, 43 bls. old bagging.

F. Weber, Exermont, Genoa, 20 cs. drawing paper.

Pulp Sales Corp., Hamina, Kotka, 550 bls. sulphate pulp, 62 rolls paper waste, 1105 bls. sulphite pulp.

National City Bank, Hamina, Rauma, 4563 bls. sulphite pulp.

Gottesman & Co., S.S. Porsanger, Wilstamarf, 3,000 bls. easy bleaching sulphite pulp.

IMPORTS AT BOSTON

Week Ending Feb. 3

H. Meyer, Pioneer Gale, Manila, 132 bls. hide cuttings.

S. H. Waldstein, Pioneer Gale, Kobe, 115 bls. rags.

IMPORTS AT NORFOLK

Week Ending Feb. 3

J. J. Rosendaal, Ronda, Rouen, 54 bls. bagging.

IMPORTS AT BALTIMORE

Week Ending Feb. 3

S. Shapiro & Son, Ronda, Rouen, 7 bls. rags.

E. J. Keller Co. Inc., American Flyer, Bordeaux, 266 bls. old cotton rags.

China American Paper & Pulp Co., Exermont, Trieste, 2427 bls. chemical pulp.

(———), Exermont, Trieste, 39 bls. threadwaste.

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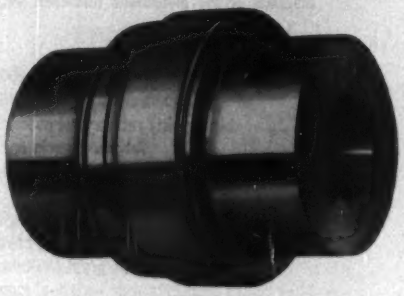
A NAME TO REMEMBER (when you buy)

A COUPLING TO FORGET (when installed)



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NEW LITERATURE

Minneapolis-Honeywell Regulator Co., Industrial Div. Bulletin 15-14, "Instruments Accelerate Research," 82 pp. Technical data sheets featuring analytical apparatus; spectrometers, robotized polargraphs, titrators and stills, and continuous gas analyzers. Also presents precision laboratory measuring instruments and research apparatus components.

Experimetrics, Inc. Booklet, "Experimetrics." Details the benefits and savings which result from the uses of modern statistical methods.

Forest Products Research Society. Book, "1950 Forest Products Research Society Fourth Annual Proceedings," 506 pp., price $8. Reports the research and development work conducted in the wood industry from logging through finished products.

Wilson, K. R. Bulletin, "Hydraulic Arbor Presses." Technical copy with cuts, layout and specifications. Also, Bulletin 3700F, "Cut Costs With the New KRW 75-Ton Hydraulic Forging Press," sales and technical copy; Bulletin, "KRW Motor Driven Hydraulic Presses," technical data; Bulletin, "KRW Air-Oil Operated Hydraulic Presses," technical data; Bulletin, "KRW Hydraulic Presses," sales and technical data; Bulletin, "Let KRW Engineers Solve Your Hydraulic Press Problems," sales and technical data.

Bailey Meter Co. Bulletin 105-C, "Three-Element Feed Water Control." Diagrams, chart records, cuts, etc., of typical installations.

John Waldron Corp. Catalog 125, "Plastic Processing Machinery." Highlights the machinery for processing and handling continuous webs of plastic materials and covers subjects; solution coating, calendering, slitting and rewinding, etc.

Oakite Products, Inc. Bulletin, "Service Report." Describes how specially designed felt-washing materials with simplified methods of application act to reduce equipment-shutdown time and prolong the useful life of paper mill felts.

American Cyanamid Co. Technical Bulletin No. 25, "Automatic Emulsifier for Liquid Rosin Size." Engineering data with flow diagrams.

Allegheny Ludlum Steel Corp. Magazine, "Steel Horizons," Vol. 13, No. 1. Features "New Defense Roles for Special Steels"; "Magnetism and the Magnetic Anneal"; "Terramycin, Super Germ Killer"; etc.

Chamber of Commerce of the U. S. Report. An analysis of trade association by Milton A. Smith. Discusses the value of trade association activities, particularly to small business, in efforts to conserve raw materials, particularly natural resources, etc.

National Paper Trade Association. Pamphlet, "Which Career?" by Harry C. Lawless, Jr., Sales Dept., Union Bag and Paper Corp. A reprint.

Borden Co. Bulletin No. 82, "Government Procurement of Wood, Plastics and Paper Products." Lists purchasing offices, covers military specifications and estimates glue or molding-powder costs in preparing bids.

Federal Trade Commission. Sheets, "International Cartels in Alkali Industry." Deals with the nature, extent and effects of international agreements concerning baking soda, soda ash and caustic soda to which organized groups of European and American alkali producers were parties from 1924 to 1946.

U. S. Dept. of Commerce, Office of Technical Services. January's "Newsletter." Covers such developments as temperature-stable capacitors, silicone lubricants, electroforming and structural test results on laboratory models.

Armstrong Machine Works. Bulletin No. 187, "Armstrong Individual Dryer Temperature Control . . . For Paper Machines"; Bulletin No. 196, "The Armstrong Moisture Control System for Paper Machines." Features the pilot controlled pressure regulating valve.

Chemonomics, Inc. Booklet, "Statistical Engineering in the Chemical Process Industries" by James R. Thomen, 48 pp., price $3.75. The first of a series of article abstracts.

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PULP-MASTER

E. D. JONES & SONS COMPANY, PITTSFIELD, MASS.

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

St. Regis Paper Co. net sales for 1950 totaled $154,789,186. This compared with $127,335,591 for 1949. Net income for 1950, after provision for Federal income taxes, amounted to $11,623,744, against $5,478,203 in 1949. Construction is under way in connection with the company's new kraft facilities at Jacksonville and Pensacola, Fla.

A regular quarterly dividend of 15 cents a share on the common stock has been declared, payable March 2, to stockholders of record February 10. The regular quarterly dividend of $1.10 a share on the preferred stock was declared payable April 1 to holders of record March 2.

John C. Pace, Pensacola, Fla., was elected to the board of directors to fill the vacancy created by the death of James H. Allen.

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We make a specialty of "Ready Dressed" cogs which are READY TO RUN the moment driven and keyed. Write for circular "G" and instruction sheets free.

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NEW PROCESSING METHODS—
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Engineers and Constructors
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FOR ALL EQUIPMENT EXPOSED TO CORROSION BY SULPHITE ACIDS OR OTHER CORROSIVE AGENTS
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DETROIT 7, MICHIGAN

Financial News

STOCK REPORT

	Per Share Earnings: Calendar Year 1949	Per Share Earnings: 12 Mo. to Approx. 9/30/50	Indic Annual Divid. Rate	Feb. 6 Approx. Market Price
PREFERRED STOCKS				
Armstrong Cork Co. $3.75 Cum.	$10.95*	$10.14a	$3.75	$102¾
Armstrong Cork Co. $4.00 Cum Conv.	10.95*	10.14a	4.00	117
Celotex Corp. 5% Cum.	6.80c	11.70c	1.00	16⅛
Champion Paper & Fibre $4.50 Cum.	60.09f	97.99	4.50	107½
Container Corp. of Amer. 4% Cum.	89.52	122.92	4.00	104¼
Crown Zellerbach $4.20 Cum.	54.38e	66.87	4.20	104½
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.93	13.70	2.50	54¼
Flintkote Co. $4 Cum.	62.70	79.70	4.00	106½
Robert Gair Co., Inc. 6% Cum.	13.79†	17.21†	1.20	19¾
International Paper Co. $4 Cum.	224.55	323.40	4.00	108½
Kimberly Clark Corp. 4% Cum.	85.27	124.87e	4.50	107¼
MacAndrews & Forbes 6% Cum.	61.59	63.03	6.00	139
Mead Corp. 4¼% Cum.	51.37	58.30	4.25	94½
Mead Corp. 2% Cum. Conv. 2nd	21.35*	36.20*	2.00	66½
Pabco Products, Inc. 4% Cum. Conv.	56.46	120.13h	4.00	101½
Rayonier Inc. $2 Cum.	9.54	17.45	2.00	36½
St. Regis Paper Co. 4.40% 1st A	30.74	65.23h	4.40	95½
Scott Paper Co. $3.40 Cum.	51.15*	62.16*	3.40	101
Scott Paper Co. $4.00 Cum.	51.15*	62.16*	4.00	106½
Sutherland Paper 4½% Conv.	46.92	68.59	4.25	121½
U. S. Gypsum Co. 7% Cum.	283.37	429.37	7.00	184
United Wallpaper Inc. 4% Cum. Conv.	2.14	0.84h	2.00	27½
West Virginia Pulp & Paper 4½% Cum.	61.28c	92.91e	4.50	109½
COMMON STOCKS				
APW Products Co.	(d)0.81	0.45	—	8¼
American Writing Paper Corp.	.04	0.86	0.50	8¾
Armstrong Cork Co.	6.57	7.84a	3.75	53½
Celotex Corp.	1.65c	3.03e	1.00	17½
Certain-Teed Prods. Corp.	2.84	3.43	1.50	17
Champion Paper & Fibre	5.15f	8.93	2.45	57
Congoleum Nairn Co.	3.04	2.70a	2.00	26½
Container Corp. of America	4.23	5.14	2.50	37½
Crown-Zellerbach	6.02e	7.36	2.20	54¼
Dixie Cup Co.	7.44	9.87	1.50	53½
Eastern Corp.	0.04	3.04	1.00	20½
Flintkote Co.	4.33	5.48	3.00	29¾
Robert Gair Co., Inc.	2.11†	2.69†	0.70	13
Great Northern Paper Co.	4.87	3.73	3.00	49½
International Paper Co.	7.12	8.65	2.50	54½
Johns-Manville Corp.	4.83	7.22h	3.50	55
Kimberly Clark Corp.	5.29	6.81e	1.80	*49¼
MacAndrews & Forbes Co.	3.64	3.74	3.00	40¾
Marathon Corp.	3.29c	4.84e	1.40	42¾
Mead Corp.	4.10	7.32	2.20	27
National Container Corp.	0.95	2.00	0.75	12½
Pabco Products, Inc.	0.85	1.87h	0.60	18¾
Rayonier, Inc.	4.75	9.73	2.50	53½
Ruberoid Co.	7.93	8.65	3.18	57½
St. Regis Paper Co.	0.91	2.10h	0.60	13¾
Scott Paper Co.	6.07	7.12	3.60	44¾
Sutherland Paper Co.	4.62	6.47	2.75	48½
Union Bag & Paper Corp.	5.01	6.68	3.00	43¼
United Board & Carton	(d)1.61b	1.56g	0.50	19¾
U. S. Gypsum Co.	13.51	17.87	10.00	116¾
United Wallpaper	(d)0.01	(d)0.01h	—	4¼
West Virginia Pulp & Paper	8.58c	12.93e	5.00	80½

(a) 12 months to approximately 6/30/50
(b) Year ended 11/13/49
(c) Year ended 1/31/50
(d) Deficit
(e) 12 months to 10/31/50
(f) 9 months to 12/31/49
(g) 12 months to 11/11/50
(h) 12 months to 12/31/50
(*) Earnings per combined preferred shares
(†) Excludes domestic and Canadian subsidiaries and 60% equity in Southern Paperboard Corp.

Robert Gair Co. increased the quarterly dividend on its common stock to 15 cents a share from 10 cents previously paid. The larger payment will be made March 10 to stockholders of record February 20.

Hercules Powder Co., Wilmington, Del., has declared a regular quarterly dividend of 1¼ percent, equal to $1.25, a share on its preferred stock, payable February 15 to stockholders of record February 2.

NAWD GRANT TO WESTERN MICH.

To encourage the appreciation of waste paper as a raw material in paper manufacture, the Waste Paper Institute of the National Assn. of Waste Material Dealers, Inc., recently announced the grant of $500 to Western Michigan College, Kalamazoo, Mich.

Donohue Bros., Ltd., has declared a dividend of 25c, payable March 1 to stockholders of record February 15.

AMERICAN PAPER AND PULP ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	Dec. 30	Jan. 6, 1951	Jan. 13	Jan. 20	Jan. 27
1950	67.3	95.0	100.4	101.8r	101.3
	Dec. 31	**Jan. 7, 1950**	**Jan. 14**	**Jan. 21**	**Jan. 28**
1949	*72.7*	*88.2*	*93.9*	*94.5*	*94.8*

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	*92.6*	*95.6*	*96.7*	*95.4*	*96.4*	*97.7*	*85.3‡*	*100.3‡*	*96.2‡*	*101.2‡*	*100.3‡*	*93.7‡*	*92.9‡*
1951													

‡ Preliminary.
r Revised.

COMPARATIVE YEARLY SUMMARIES

	1944	1945	1946	1947	1948	1949	1950	1951
Year to Date	88.6	86.7	94.7	103.1	100.9	91.0	98.9	99.5
Year Average	88.1	89.4	100.1	104.3	96.2	88.6	97.9‡	

PAPERBOARD OPERATING RATIOS†

	Dec. 30	Jan. 6, 1951	Jan. 13	Jan. 20	Jan. 27
1950	63	91	106	104	104
	Dec. 31	**Jan. 7, 1950**	**Jan. 14**	**Jan. 21**	**Jan. 28**
1949	*53*	*74*	*94*	*92*	*92*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	88	92	91	92	91	94	82	100	96	102	101	95	94
1951													

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

Note: The chart shows the ratio through December 1950 on the basis of 6-day capacity. Beginning with January 1951 the ratio is shown on the new basis of normal 6- and 7-day capacities. Corresponding weekly and monthly ratios for 1950 on the new basis, shown in the tables above, are somewhat lower.

Paperboard operating ratios continue on the basis of a 6-day week.

† Per cents of operation based on "inch-hours" reported to the National Paperboard Association.

OBITUARIES

Walter Geist, 56, since May, 1942, president of Allis-Chalmers Manufacturing Co., Milwaukee, Wis., died suddenly January 29 of a heart ailment.

Thomas Johnson Gillelan, 55, assistant sales manager of Hinde and Dauch Paper Co. of Canada, Ltd., died January 21 at his home in Toronto, Ont. He came to Toronto in 1930 to join Canada Paper Board, Ltd. He is survived by his widow and his mother.

Henry Hawkins, 63, well known in the Canadian paper industry, died January 13. Mr. Hawkins, who joined the Canada Paper Co. of Montreal in 1907, became sales representative of the E. B. Eddy Co. in 1935, serving it until his death.

Edwin Leroy McCormack, 72, general superintendent of the St. Regis Paper Mills for more than 14 years and papermaker for half a century, died suddenly January 15 at his home in San Bernardino, Calif. He was connected with St. Regis Paper Co. from 1924 to 1938. From 1916 to 1922 he was general superintendent of the St. Maurice Paper Co., Cap Madeleine. He then became superintendent of the St. Lawrence Paper Mills, Ltd., at Three Rivers, Que. His last position before he retired in 1950 was superintendent of the Minnesota and Ontario Paper Co., International Falls, Minn.

Merlin Thomas Newcomb, 60, mill superintendent of the Knowlton Brothers Paper Co., Watertown, N. Y., died January 26. He had been associated with the Kimberly-Clark Corp., Neenah, Wis., for about 20 years and came to Watertown as superintendent of the Knowlton Brothers mill in 1944.

Thomas T. Reaveley, 80, former assistant superintendent of the International Paper Co. at Orono, Me., died in Manodnock County Hospital, Peterboro, on January 11.

Lee Roy Wilson, 83, a former president of the Pulp and Paper Institute, died January 10 in Toronto, Ont.

Long prominent in the pulp industry, Mr. Wilson for many years was vice-president and general manager of Abitibi Power and Paper Co., Ltd.

N.P.A. PROCEEDINGS PUBLIC

WASHINGTON, D. C.—Trade associations and other business groups have been assured by the National Production Authority that widest circulation will be given proceedings of the respective industry advisory committees now working with the NPA on emergency supply-demand and related problems.

Instructions by the agency have put on a formal basis the practices which NPA has followed with respect to industry advisory proceedings since the current emergency. In addition, informal meetings will be arranged with trade association executives, when requested.

The new instructions emphasize that advisory committees from the industries concerned are "the recognized, official instruments for maintaining contact between NPA and industry on all matters relating to the defense program" although individual citizens or citizen groups may seek consultation with NPA representatives, whether or not members of an official advisory group.

Provision also has been made for specialized groups to work on individual problems, among other activities.

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APPLETON WOOLEN MILLS APPLETON, WIS.

SUPPLIERS

CONTINENTAL FOUNDRY & MACHINE CO., Erie, Pa., has named William L. Hunter, formerly general manager, vice-president and general manager of the Northern Equipment Division.

CHAS. T. MAIN, INC., of Boston, Mass., announce that J. A. Extrom, formerly technical consultant for the Mead Sales Co., has joined their organization. Mr. Extrom was for fifteen years technical director of the Tomahawk Paper Co., now the National Container Corp., of Tomahawk, Wis.

IMPCO ELECTS RICH

John P. Rich was elected president of Improved Paper Machinery Corp., Nashua, N. H., on January 19, 1951. He was born July 10, 1906, at Swanton, Vt., son of John P. and Florence Marion Rich. He attended grade schools in Swanton and St. Albans, Vt., prepared at Hotchkiss School, Lakeville, Conn., graduating in 1925, thereafter studied mechanical engineering at M.I.T., graduating in 1930 with a B.S. degree.

He worked one year at Groveton Paper Mills, Groveton, N. H., and came to Improved Paper on July 5, 1931, beginning work as a mechanic in the shop.

John P. Rich

He was elected a director of the company July 22, 1935, secretary July 30, 1935, assistant to the president June 14, 1938, and executive vice-president February 12, 1947.

He married Olive F. Hussey of Nashua and they have two boys, John P. III and Philip D., fourteen and eleven respectively.

Others in the organization, well known in the pulp and paper trade, include John H. Noble, vice-president; E. R. Burling, vice-president; Robert Nivison, sales manager; Kent W. Smith, treasurer; Allan M. Barker, assistant treasurer; Ralph P. Emerson, secretary and service manager; and Norman I. Foster, comptroller.

The former president, Walter L. Barker, is now chairman of the board.

THOMAS *Flexible* ALL METAL COUPLINGS

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Patented Flexible Disc Rings of special steel transmit the power and provide for parallel and angular misalignment as well as free end float.

Thomas Couplings have a wide range of speeds, horsepower and shaft sizes:
½ to 40,000 HP
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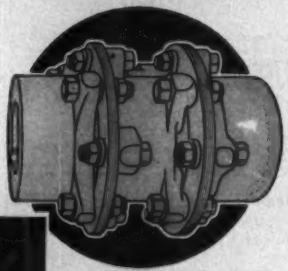

153" Sumner Iron Works Chipper—1500 HP @ 277 RPM—Soundview Pulp Co., Everett, Wash.

OTHER CHIPPER INSTALLATIONS
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ST. REGIS PAPER CO. Tacoma, Wash.
CROWN WILLAMETTE PAPER CO. Camas, Wash.
RAYONIER, INC. Shelton, Wash.
WEYERHAEUSER TIMBER CO., PULP DIV., Everett, Wash.
BRITISH COLUMBIA PULP & PAPER CO., LTD., Woodfibre, B. C.

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Walter L. Rippeteau was appointed manager, Organic Chemical Sales Department, Michigan Alkali Division, Wyandotte Chemicals Corp., January 1.

MATHIESON CHEMICAL CORP. announces that Dr. Harold R. Murdock, a staff member of Robert & Company Associates, has been appointed as a qualified and responsible engineer, through whom all of Mathieson's technical information is available to organizations interested in the application of sodium chlorite and chlorine dioxide to the bleaching of wood pulp, as well as the generation of chlorine dioxide from either sodium chlorate or sodium chlorite.

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Chemists, chemical engineers and laboratory men; project engineers; plant engineers; master mechanics; designers and draftsmen; machine foremen Cylinder and Fourdrinier machine; head millwright; beater engineers; machine tenders and back tenders.

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GENERAL FACTORY FOREMEN

Paper converting plant located in Milwaukee. Age 35-45 years. Initiative, judgment and experience required. Should have mechanical background, ability to direct labor, some experience in contract negotiations, knowledge of costs, production and maintenance operations.

Excellent opportunity. Please furnish references, age, experience, education, present income and salary desired.
Address Box 51-50 care Paper Trade Journal.

F-10

Chemist — Young man or woman college graduate with coating mill laboratory experience preferably with knowledge of colloids and adhesives to assist in paper development work in lithographic industry in Midwest. Our employees know of this opening. Send complete resume, Box 51-33, care Paper Trade Journal. F-16

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SALARIED POSITIONS $3,500 to $35,000. We offer the original personal employment service (established 41 years). Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars. R. W. BIXBY, INC. —117 Dun Bldg., Buffalo, 2, N. Y. TF

HELP WANTED

Asst. manager, plastic coating; Asst. plant engineer (M.E.), Master Mechanics; Night Superintendents; Tour boss for light-wt. paper; Tour boss for board mill; Superintendent; Beater Engineers, Machine Tenders, Backtenders and many other attractive positions.
PERSONNEL SERVICE ASSOC., 118 State St., Springfield 3, Mass.
Specialized Confidential Placement Service in the Paper and Allied Industries.
Personnel Consultants. F-9

AN UNUSUAL OPPORTUNITY for CHEMIST

Familiar with Folding Boards and Quality Control. To work directly under plant manager.
Excellent chance for advancement.
State complete details of experience in first letter.
Address Box 51-42 care Paper Trade Journal. F-25

WANTED — SALES ENGINEER — Experienced in Pulp and Paper Mills, for sales and service work. Excellent opportunity with old established machinery manufacturer. In reply, give resume of education, experience and current salary. Address Box 50-512 care Paper Trade Journal. TF

WORKING SUPERINTENDENT for small, fast growing Eastern mill making lightweight specialties. Cylinder machine experience essential. State qualifications and salary expected. Address Box 50-378 care Paper Trade Journal. TF

WANTED—Specialty Paper Mill Master Mechanic for Mid-western mill. Age 40 to 50 years with engineering background. In reply state qualifications and give references. Address Box 51-27 care Paper Trade Journal. F-16

TOUR BOSS with experience in producing lightweight papers, such as manifold and onionskin. Mill located in Massachusetts. In reply give full details, including salary expected. Address, Box 51-39 care Paper Trade Journal. F-9

WANTED—Chemist or Chemical Engineer for sales and service work selling adhesives to coated paper trade. Location Middle West. Address Box 51-45 care Paper Trade Journal. F-23

KRAFT PULP AND PAPER MILL ENGINEER—Electrical training preferred, power experience necessary. Excellent opportunity for one who can carry full responsibility. Southern location. Address Box 51-46 care Paper Trade Journal. F-23

EXPERIENCED PAPER MACHINERY DESIGNER with special knowledge of reels, winders and cutters. Excellent opportunity with well established company. Address Box 51-49 care Paper Trade Journal. TF

WANTED — Experienced back tender for mid-western Kraft Specialty mill. Six to seven days per week operation. Time and one half for Saturday, Double time for Sunday. Address Box 51-52 care Paper Trade Journal. M-2

WANTED — Two backtenders for folding grades. Steady job; Good pay. Seven days per week, Time and a half for Saturday; Double time for Sunday. Morris Paper Board Co., 177 Third Ave., Paterson, N.J. M-2

WANTED experienced paper mill superintendent for a West Coast Bleached Kraft Board Mill. Please state experience and background. Address Box 51-51 care Paper Trade Journal. F-9

HELP WANTED

WANTED—TOUR BOSS—High Speed Tissue Machine. Northern New Jersey. Address Box 51-53 care Paper Trade Journal. F-23

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PAPER MILL SUPERINTENDENT TWENTY-FIVE YEARS OF PRACTICAL EXPERIENCE manufacturing folding boxboard, writing, book, twisting, sulphite specialties, groundwood specialties, kraft specialties. Well experienced in stock preparation for above grades. Run mill economically. Best of references. Address Box 51-60 care Paper Trade Journal. M-2

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FOR SALE—64" Seybold Paper Cutter; 36" Beck and 48" Kidder Sheeters; 6" Brightwood; 26" x 38" Thomson Platen Die Cutters; also Paper Box, Container, and Paper Converting Machines of all standard makes and sizes. Write for listing. Address Box 51-19, care Paper Trade Journal. TF

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FOR SALE: 2-Color Hudson-Sharpe Rotary Printing Press, 18½" web—either roll and rewind, or cuts off in sheet lengths from 24" to 28". Ideal for printing toilet paper wraps. Immediately available. Address Box 51-61 care Paper Trade Journal. F-16

CURRENT OFFERINGS

- 32" model 24-3A Cameron Slitter.
- 45" Beck Sheeter with layboy.
- 58" Finley Sheeter.
- 82" Hamblet Sheeter, only 8 yrs. old.
- 100" Horne single knife Sheeter.
- 68" Oswego mill type Power Cutter, with power back guage.
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(Send for Current List.)

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120 West 42nd St., New York 18
(Plant at Stamford, Conn.)

TF

FOR SALE

Two—#2 Moore & White screens both in operation until late Nov. 1950. Scott Paper Co., Chester, Pa. Attention E. W. Broomall. F-9

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HELP WANTED—10c a word. Double rate for heavy face type. Minimum charge $2.50.

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FOR SALE

FOR SALE

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250	G.E.	S.R.	450	MT
200	G.E.	S.R.	450	I M
200	West.	S.R.	600	CW
200	ALCh.	Syn.	600	
150	G.E.	S.C.	900	IK
125	G.E.	Syn.	600	ATI
125	Westgh.	Syn.	450	8 Pole
100	West.	S.C.	900	CS
100	West.	Syn.	600	
100	West.	Syn.	277	
100	G.E.	S.R.	450	I M
100	ALCh.	S.C.	720	ARX
100(3)	West.	S.C.	1750	CS
60	G.E.	S.C.	1750	
40	G.E.	S.C.	1150	MT330
30	ALCh.	S.C.	900	AR
30	West.	S.C.	1720 (Exc.)	CS405
25	G.E.	S.C.	1150	I K
20	Vert. G.E.	S.C.	1150	KT320
25	500 v. West.	S.C.	1750	CS305
25	Gr.Wh.	S.C.	900	

HP	Make	Wdg	Spd.	Type
15	West.	S.C.	1200	CS
15	AL Ch. (Imm)	S.C.	(Hi-Tors) 1055	ARWNH
10	West.	S.C.	1720	CS
15	Gr.Wh.	S.C.	900	
15	West	S.C.	1750	CS324
15	G.E.	S.C.	1750	CS324
15	West.	S.C.	900	Fr. 324
10	West.	S.C.	575	CS305C
10(3)	ALCh.	S.C.	575	ARY
10	West.	S.C.	1200	CS270C
7½(3)	ALCh.	S.C.	870	ARY
7½	West.	S.C.	3440	CS254Y
5	West.	S.C.	1200	CS
5/1½	L.A.	S.C.	580/1160	2205
5	Master	S.C.	1125/57	PA
5	Burke	S.C.	430	KM2
5	West.	S.C.	1750	
5	550v.West.	S.C.	1750	CS224

TRANSFORMERS

2—30 KVA WEST. 2200v. 120/240v.
1—75 KVA. G.E. 2300v.-110 /230v.
1—200 KVA. Penna. 2400v-240 v.
1—400 KVA. G.E. 2300v.-220 /460v.

LET US HELP YOU LOCATE YOUR HARD-TO-FIND EQUIPMENT

MOORHEAD ELECTRICAL MACHINERY CO.

OAKDALE, PA., Pittsburgh District — Pittsburgh Tels. WAlnut 1-4300 — F-9

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BLANK NEWS
AVAILABLE
IMMEDIATE DELIVERY
F.O.B. SIDING
BUCK RUN, PA.

Box 51-54, care Paper Trade Journal or

N. Y. PHONE MU 7-2649

F-9

FOR SALE—1—S-10-H Broughton Oscillating Shower #250 H for 138" Wire with two Master Strainers unused $515.00 shipping point. Address Box 51-55 care Paper Trade Journal. F-9

FOR SALE—150 H.P., G.E. Synchronous Motor, 600 R.P.M., Outboard Bearing, complete with Exciter and Exciter Panel. Reply, International Felt Corporation, 121 S. Broad St., Phila. 7, Pa., KIngsley 6-1414. F-16

FOR SALE

Toilet Winders

2—72" Hudson-Sharp (Surface type winder)
1—84" Gissinger

J. J. ROSS COMPANY

250 Frelinghuysen Ave., Newark 5, N. J.
Tel. Bigelow 3-3720 F-9

FOR SALE

1—112" Cameron, Type 18, 60" rewind.
1—400 h.p. Synchronous motor, 450 r.p.m.
1—350 h.p. Slip ring motor, 400 r.p.m.
1—125 h.p. Synchronous motor, 600 r.p.m., 550 v. (Late model).

BEATERS
1—1½ lb. Laboratory Beater.
1—500 lb. Beater—iron tub.
1—Dilts Iron Tub Laboratory Beater. Beater roll 14" diameter x 10½" face, including motor.

CALENDER STACKS
1—72" 5 roll Calender Stack.
1—2 roll pressure calender—32" x 108".
1—72" 4 roll calender stack. (Extra heavy duty).
1—90"—3 roll.

CHIPPER
1—96" Murray 4 knife Chipper—anti-friction bearings.

CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
4—Jeffrey Hammermill.

CYLINDER MOLDS
1—80" diameter x 72" face.
1—80" diameter x 70" face.
5—36" diameter x 54" face.
1—36" diameter x 66" face.
1—48" diameter x 72" face.

DRIVES
1—#6½ Reeves Drive.
1—#4 Reeves Drive
1—Reliance Electric Drive, complete with 5 gear head motors.
3—#3 Reeves Drives (totally enclosed).

V-BELT DRIVE
1—21½" diameter x 7½" face, 5 groove.
1—16½" diameter x 7½" face, 5 groove. (With clutch).

DRYERS
1—Complete unit, consisting of 6 dryers, 30" diameter x 38" face, including frames, gears, anti-friction bearings.
8—Copper faced Dryers 60" diameter x 72" face, including frames, gears, etc.
7—24" diameter x 48" face.
4—36" diameter x 72½" face, with gears and bearings.
1—48" diameter x 91" face.
3—30" diameter x 96½" face.
1—36" diameter x 143" face.
1—24" diameter x 130" face.
1—48" diameter x 70" face.
1—40" diameter x 82" face.
3—Dryers 48" diameter x 134" face.
1—36" diameter x 84" face.
1—24" diameter x 94" face.
2—20" diameter x 48" face.

FELT CONDITIONER
1—140" Nash Felt Conditioner.

FLAT SCREENS
1—4 plate Shartle Flat Screen
7—Packer, 12 plate, roller shoe type.

FRAMES
Vertical frames for 100 dryers, 48" diameter, with bearings.

JORDANS
1—Horne Jordan.
2—Noble & Wood Mammoth.

LIME SLUDGE FILTERS
2—IMPCO Lime Sludge Filters, vacuum type, 5' diameter x 4' face.
2—IMPCO Lime Sludge Filters, vacuum type, 5' diameter x 10' face.

MISCELLANEOUS
1—Caustic Mixer.

MOTORS
1—125 h.p., 1700 r.p.m.
1—50 h.p., 850 r.p.m.
Write us regarding your requirements.

PRESSES
3—Sets Primary Presses, complete, 145" face, Anti-friction bearings. Also all types of rolls for 149" wet end.

PULLEYS
Various cone and assorted pulleys.

PULP BALER
1—200 ton hydraulic Pulp Baler. (Practically new).

PULPERS
1—Jones Pulper. Complete with motor and drive.
1—Noble & Wood Pulper—Iron Tub.

PULP PRESSES
2—Pulp Presses 76" wide (Kamyr Type).

PUMPS
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.
4—Shartle Brothers circulating pumps, each 4,000 g.p.m.

REEL
1—104" Beloit two bowl reel.

REFINERS
2—Claflin Refiners.

ROLLS
Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

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1—#2 Bird Rotary Screen.
1—#2A Bird Rotary Screen.
3—#2A Cylinders, only (for Bird Rotary Screens). (Chrome plated).

SAVEALL
1—#5 Bird Saveall.

SHEETERS
2—36" Sheeters.
2—48" Sheeters.
2—80" Sheeters.
1—44" Hamblet Sheeter, rebuilt.
2—64" Hamblet.

SHREDDERS
2—Daniels Rag Cutters.
1—Taylor-Stiles Giant Shredder, portable.

SLITTERS & WINDERS
1—42" Cameron—Type 40-4-B.
2—42" Cameron—Type 24-2-A.
1—42" Cameron—Type 9-S.
1—118" 2 drum Waldron.
2—112" Cameron—Type 18.
1—104" Beloit two drum winder.
1—42" Cameron Constant Tension with pneumatic control.
1—42" Cameron—Type 6.
1—32" Cameron—Type 8-S.
1—32" Cameron—Type 28-3A.
1—64" Cameron—Type 8-10.

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1—10 x 20 Shartle Duplex.
1—7 x 16 Shartle Duplex.
1—7 x 16 Shartle Triplex.
1—10 x 20 Shartle Triplex.
Advise as to your requirements.

SUCTION BOXES
5—Suction Boxes, 82" drilled face x 8" wide.

SUCTION COUCH ROLL
1—Sandusky 14½" dia. x 103" drilled face.

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1—#3 Nash Hytor.
1—#1 Nash Hytor.

VAT
1—Iron end Vat only, for decker or saveall, suitable for cylinder mold 35 x 130.

WAXING MACHINES
1—80" Potdevin Waxing Machine.

YANKEE DRYERS
1—48" Face x 84" Diameter, Frames & Bearings.
1—42" Face x 60" Diameter, complete with frames, gears, bearings, felt rolls and 2 Baby Dryers.

We are always in the market to purchase your surplus or idle machinery. What have you to offer? Wanted Cylinder and Fourdrinier Machines (complete mills).

Paddy Ross, Pres. — **J. J. ROSS COMPANY** — Ben Kurz, Treas.

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84" Trim Machine, including: Brownell Engine (new parts, overhauled, like new). Three (3) beaters (with motors) Stock Chest (with motors and agitators) Three (3) Noble and Wood Jordans (with motors), Piping, Mixing Boxes, Three (3) Primary Presses, Three (3) Secondary Presses. Complete Felt Section, including Gilbert and Nash Guides, Broughton Showers, Two (2) Calender Stacks (Sandy Hill nine roll stack and Ferrol Birmingham nine roll stack). One (1) Downingtown Duplex Sheeter complete with drive, all drives for complete paper machine are Bagley and Sewall Bevel Gears. Complete line shaft, including hangers, bearings and pulleys, Two complete sets extractor rolls, air ducts and piping.

Extra spare Felt Rolls, Extra Primary Press Rolls, Extra Secondary Press Rolls.

This machine may be equipped for either a Cylinder or Fourdrinier type machine.

We have on hand many auxiliary and spare parts for this equipment, including pumps, motors, piping, valves, wiring, electrical equipment etc. Auxiliary equipment too numerous to mention.

We have everything for the complete machine, with the exception of screens, dryers and wet end.

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Thomas A. Gaiente and Sons, Inc.
Wallkenna Paper Mills, Division
P. O. North Hoosick, New York
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FOR SALE

FOR SALE

2—84" 9-roll Supercalender Stacks. Complete with drives.

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Tel. BIgelow 3-3720
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WANTED: LAMINATOR, any description, 72" width. Address Box 51-56 care Paper Trade Journal. F-9

WANTED TO BUY equipment for making ground wood. Advise type, location, condition and age. Address Box 51-57 care Paper Trade Journal. F-9

WANTED Continuous source of large quantities of waste paper flour, and dust in several locations. Allen Sales Co., 366 Broadway, New York 13, N.Y. F-9

WANTED — Cameron Type Slitting Machines Any Size Any Condition. Address Box 51-59 care Paper Trade Journal. F-9

WANTED—Brightwood Box Machine, Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic presses, Sheridan Presses, Dryers. Address Box 50-193 care Paper Trade Journal. TF

WANTED—W & P Shredders, Evaporators Generators and Boilers, Slitters, Cutters Hydraulic presses, Sheridan Presses, Dryers. Address Box 50-18 care Paper Trade Journal. TF

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WANTED

WANTED

Serviceable Grocery Bag Machine
8 through 20 lb. sizes.
Recent Model Potdevin preferred.

Address Box 50-450, care Paper Trade Journal. TF

WANTED

Slitter and rewinder for films and foils, 30" or wider, in good condition. Please advise best cash price and full details. The Interstate Folding Box Co., Middletown, Ohio.
F-16

WANTED

Roll Grinder to handle rolls up to 26 x 84".
Advise full particulars including blue print if possible and best cash price.
Box 51-58 care Paper Trade Journal.
EOW M-23

WANTED

Cylinder Board Machine
Trim 72" or larger
Leeavoy Industries
Empire State Building, New York City
LO 5-3100 — Mr. Price
F-9

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Gibbs-Brower Company, Inc.
Hudson Sharp Machine Co.
The Mayer Machine Co., Inc.
Moore & White Co.
Potdevin Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corporation, John
Weber, Herman G., & Co., Inc.

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American Cyanamid Company Industrial Chemicals Division
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The Goodyear Tire & Rubber Company
Hercules Powder Co.
J. M. Huber Corp.
Monsanto Chemical Company
National Wax Co.
Nopco Chemical Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

COGS
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Manchester Machine Co.

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Nash Engineering Co.
Roots-Connersville Blower Corp

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John Waldron Corp.
H. G. Weber & Co., Inc.

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CONTROLS
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Poirier Control Co.
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Stickle Steam Specialties Co.

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Jean Waldron Corp.
Dilts Machine Works
Hudson-Sharp Machine Co.

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Link Belt Company
Murray, D. J., Mfg. Co.
Rose Engineering Corp., J. O.
Shartle Brothers Mch. Co.
Stephens-Adamson Mfg. Co.

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Valley Iron Works
Waldron Corp., John

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Link Belt Company
Whiting Corp.

CURL TESTER
Thwing-Albert Instrument Co.

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Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Harris-Seybold Co.
Moore & White Co.
Perkins & Son, Inc., B. F.
The Sandy Hill Iron & Brass Works
Taylor, Stiles & Co.
The Smith & Winchester Mfg Co.

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Manchester Machine Co.

CYLINDERS
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Valley Iron Works Co.

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Dilts Machine Works
General Dyestuff Corp.
Kinsley Chemical Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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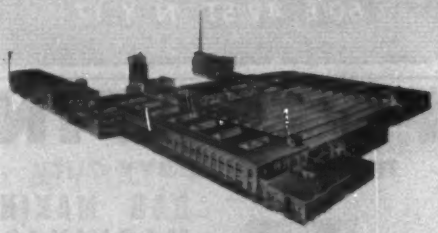

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DEMULSIFIERS
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DENSOMETERS
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W. & L. E. Gurley

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General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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General Dyestuff Corp.
Nopco Chemical Co.

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Chicago Bridge & Iron Co.
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Lakenweld
Pusey & Jones Corp.

DIGESTERS (Continuous)
Paper & Industrial Appliances

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Monsanto Chemical Company
National Aluminate Corp.
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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The Moore & White Co.
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Shartle Brothers Machine Co.

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The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Valley Iron Works Co.

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DRILLED SUCTION DRUM ROLLS
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Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Macky, Corp.
The Sandy Hill Iron & Brass Works
Shartle Bros. Mch. Co.
Stephens-Adamson Mfg. Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

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Manchester Machine Co.

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Stickle Steam Specialties Co.

DRYER ROLL PYROMETER
Thwing-Albert Instrument Co.

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M. W. Jenkins Sons, Inc.
E. D. Jones & Son Co.
Moore & White Co.
D. J. Murray Mfg. Co.
John Waldron Corp.

DUSTING BRUSHES
M. W. Jenkins Sons, Inc.

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Bunge Pulp & Paper Co.
Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuffs Corp.
National Aniline Division, Allied Chemical & Dye Corp.

ELECTRIC HYGROMETER
Thwing-Albert Instrument Co.

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Egan, Frank W., & Co.
John Waldron Corp.

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John Waldron Corp.
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Rohm & Haas Co.
Wyandotte Chemicals Corp.

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Wallerstein Co., Inc.

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Waterbury Felt Co.
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General Dyestuff Corp.
Nopco Chemical Co.

FELT CONDITIONERS
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The Sandy Hill Iron & Brass Works

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Gilbert & Nash Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

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Vanderbilt Co., R. T.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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Hungerford & Terry, Inc.
Johnson Corp.
Moore & White Co.
J. O. Ross Engrg. Corp.
The Sandy Hill Iron & Brass Works
Walworth Company

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Walworth Company

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Williams Apparatus Co., Inc.

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The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co

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Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Works

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The Moore & White Co.
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John Waldron Corp.

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Egan, Frank W., & Co.
The Sandy Hill Iron & Brass Works

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Valley Iron Works Co.
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Nopco Chemical Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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Thwing-Albert Instrument Co
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National Technical Laboratories
Taylor Instrument Companies
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John Waldron Corp.
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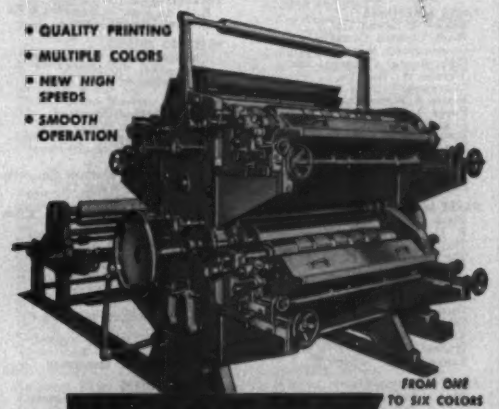

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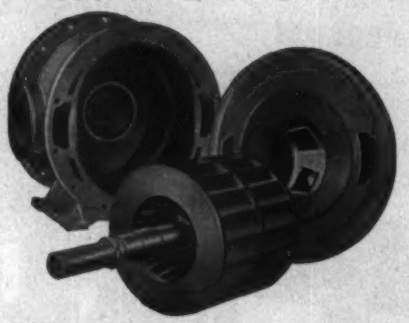

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Shartle Brothers Machine Co.
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Potdevin Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.
Waldron Corp., John
H. G. Weber & Co., Inc.
Williams Apparatus Co.

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Thwing-Albert Instrument Co.

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PULPSTONES
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PULVERIZING MILLS
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Hudson Sharp Machine Co.
Moore & White Co.
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The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

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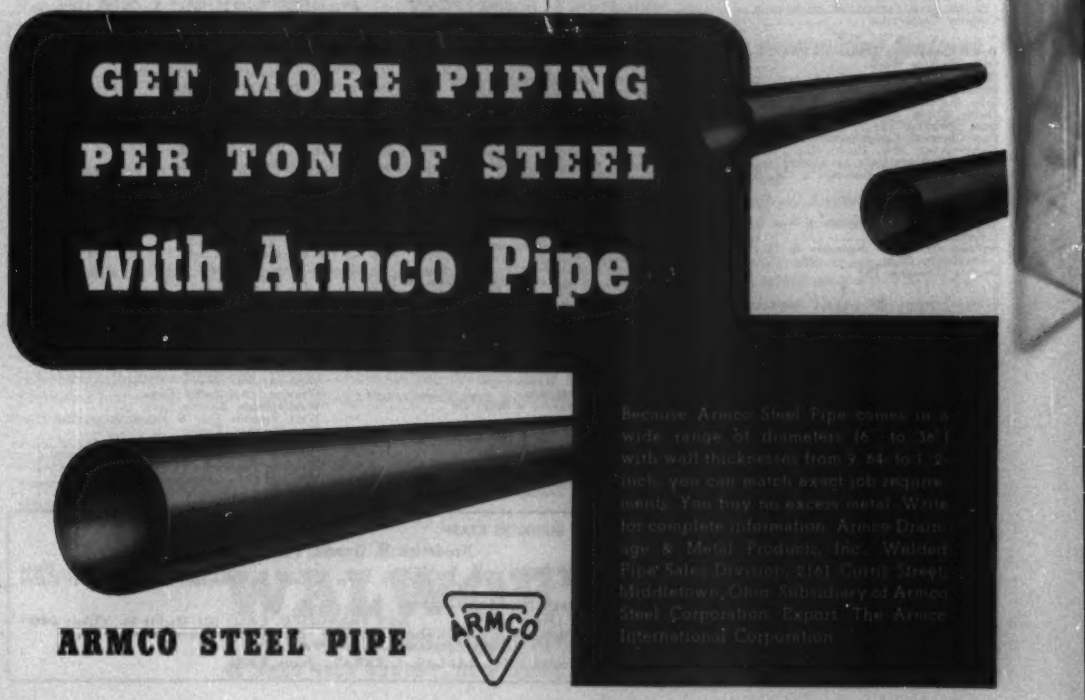
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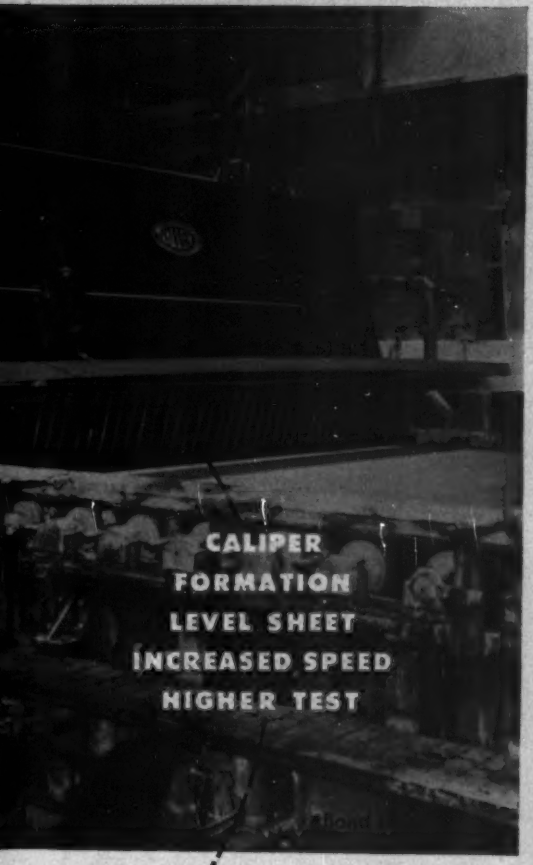

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